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ASSESSMENT-BASED TREATMENT FOR PHYSICALLY ABUSIVE PARENTS: AN EXPLORATORY STUDY

by

Scott E. Blickenstaff

A dissertation submitted in partial fulfillment
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Psychology

Approved:

UTAH STATE UNIVERSITY
Logan, Utah

1991

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Scott E. Blickenstaff

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ABSTRACT

Assessment-Based Treatment for Physically Abusive Parents: An Exploratory Study

by

Scott E. Blickenstaff, Doctor of Philosophy

Utah State University, 1991

Major Professor: Sebastian Striefel, Ph.D.
Department: Psychology

Literature on child abuse supports the conception that physical abuse is a multidetermined behavior. Multifaceted treatment programs have shown some promise in dealing with the heterogeneity of abusive parents. Most of the reported comprehensive intervention programs have provided predetermined doses of a variety of treatment components to each subject. The intent of this study was two-fold: (a) to provide treatment components based on assessment of the parent and (b) to train the parent to a specified level of competency. A multiple baseline design was used in this clinical study of six agency-referred, physically abusive parents. Based on initial assessment and ongoing observation, subject parents were provided with one or two of four available parent-training components (child behavior management, cognitive modification, relaxation, and systematic desensitization). Treatment effects on 16 dependent variables were measured by self-report, coded

audiotape, coded observation, physiological measures, and reports of abuse to public agencies. Results indicated improvement by all the subjects on most of the dependent variables (i.e., 77 of 90 comparisons). However, only three of the six subjects met all of the predetermined criteria for termination of all intervention. Subjects met 15 of 22 training competency criteria. Reductions in abuse indicators were maintained on most of the dependent measures during 30- and 90-day follow-up probes. Only one subject was re-reported for child abuse during the year following treatment. The low attrition rate was seen as a function of assessment.

(191 Pages)

CHAPTER I

INTRODUCTION

Problem Statement

During the past decade, child abuse has received increased attention from clinicians, researchers, and the media. It is difficult to determine the incidence of child abuse because of varying definitions and the fact that child abuse is usually a private act that cannot be directly assessed (Goldstein, Keller, & Erne, 1985; Wolfe, 1987). The American Humane Association (1989) tallied 2.2 million reports of child abuse and neglect in the U.S. in 1987. Estimates of the incidence of physical abuse run as high as 4 million cases per year (Gill, 1970). Starr (1979) reports that child abuse is a leading cause of death and injury among children.

One of the most consistent and distressing findings in the child abuse literature is that abusive parents often report that they had been abused as children (Goldstein et al., 1985). These intergenerational patterns of child abuse, which "all too often appear to be like family heirlooms" (Biller & Solomon, 1986, p. 231), underscore the need for effective intervention.

There is a consensus in the literature that child abuse is a multidetermined behavior (Goldstein et al., 1985; Herzberger, 1990; Lutzker & Rice, 1987; Wolfe, 1987) requiring a multifaceted intervention. Parental inadequacies, child behavior problems, sociological and

social learning variables are all seen as part of the etiology of child abuse.

Early behavioral interventions focused largely upon the parent's need for child-management skills and anger control (Isaacs, 1982; Smith, 1984). In spite of encouraging results from some of these early studies, researchers have noted that some abusive parents fail to benefit from treatment (Lutzker & Rice, 1987; Koverola, Manion, & Wolfe, 1985; Smith, 1984). Koverola and colleagues (1985) suggested that treatment failures probably result from situational and family characteristics that limit the effectiveness of structured parent training. "Child abuse is a notoriously multifaceted disorder, and abusive parents differ considerably from one another. Such heterogeneity and multicausality continue to pose a challenge to research endeavors" (Wolfe, 1985, p. 464).

Several investigators, including Lutzker and Rice (1987) and Wolfe (1985), have suggested that a comprehensive treatment program is the most promising way to reduce the failures resulting from the multivariate nature of child abuse. Marvel (1987) offered an additional argument for a multimodal approach to intervention, "Treatment modalities used in isolation often do not appear to be of sufficient strength to have a significant impact upon the behavior of abusive parents" (p. 1). A limited number of researchers (e.g., Denicola & Sandler, 1980; Lutzker & Rice, 1984; Marvel, 1987; Wahler, 1980; Wolfe, Sandler, & Kaufman, 1981)

have used multimodal treatments and have reported favorable results.

Most of the published intervention studies in child abuse have followed one of two approaches: earlier studies used single-variable interventions to assess the impact of that particular variable, while more recent interventions (e.g., Marvel, 1987; Wolfe et al., 1981) have turned increasingly toward multimodal treatments employed in a "shotgun" approach, in which all subjects receive all treatments. In spite of these latter efforts to study multimodal treatments, the literature still lacks adequate evidence that individuals who have received multimodal treatments have actually mastered the skills taught. It is therefore difficult to determine whether those subjects who failed to change did so because the parent training did not address the proximate cause of the child abuse, or because the subject failed to master the skill.

While multimodal treatments have been shown to be sufficient to evoke subject change in the studies cited above, these studies did not establish that all of the intervention approaches were necessary for each abusive parent. On the contrary, most of the above authors (e.g., Koverola et al., 1985; Lutzker & Rice, 1984; Marvel, 1987) advocate that individualized interventions should be based on a pre-treatment assessment of each family. Land (1986) points out the reality that current economic factors are forcing child abuse programs to adopt a minimum treatment

approach, since limited financial resources too often preclude program increases commensurate with the increasing incidence of reported child abuse. Land (1986) advocates differential diagnosis and differential treatment to meet the evident need for more efficient intervention.

Assessment offers the potential of identifying the salient intervention targets in abusive families (Smith & Rachman, 1984) and for designing treatment accordingly (Koverola et al., 1985). Researchers have only tangentially dealt with evaluating assessment-based treatment. No studies have been reported in which assessment-based treatment has been compared with behavioral multicomponent treatments.

Marvel (1987) used a unique combination of four widely different treatments. His components included parent training in the following areas: (a) child management, (b) cognitive strategies for dealing with stressful problems, (c) autogenic relaxation, and (d) systematic desensitization. He gave all four treatment components to all subjects, varying the order of treatment. Marvel found the treatment package to be effective in decreasing abusive behaviors as measured by a variety of dependent variables including self-report and physiological variables. Not all of the subjects benefitted from all of the treatment components, nor did all subjects master all components. Marvel recommended that pretraining assessment be explored as one way to determine which subjects would benefit from

which treatment components. He also suggested that subjects be trained in specific skills until they achieve competency.

The present study used an assessment process to identify those treatment components most appropriate for each individual. The treatment consisted of those components of Marvel's (1987) study which were determined by assessment to be most likely to be effective for each subject. Initial assessment of each subject included a physiological stress profile conducted while playing an audio recording of parent-child interaction in the subject's home, an in-home observation, an irrational beliefs inventory, and a written questionnaire assessing knowledge of behavioral principles of child management.

The use of assessment-based treatment required some criteria for assessing when adequate changes had occurred. Without definitive criteria, any decision to discontinue treatment or try another mode of treatment would have been subjective and therefore a threat to the external validity of the study (Borg & Gall, 1983). No previous reported study had formalized specific criteria for adequate change in child abuse or in child abuse indicators. Previous studies had typically provided some structured intervention and then measured the dependent variable.

In summary, physical child abuse is a multidetermined behavior that has been shown to be amenable to multimodal treatment of the abusive parents. Not all parents, however, have responded to all components of treatment. The lack of

evidence of skill competency in previous studies raised the question: Was the wrong intervention used, or did the parent fail to learn the skill? Resources for dealing with child abuse are severely strained by the number of requests for intervention. Individual treatment based on assessment offered a solution that had been advocated in the current literature but had yet to be explored.

Purpose and Objectives

The intent of the present study was to evaluate an assessment-based treatment for physically abusive parents. Assessment provided the basis for selecting, among four treatment modalities, the particular treatment or combination of treatments that was indicated as the most effective treatment intervention for a given, physically abusive parent. The four treatment modalities used in the present study involved parent training in (a) behavioral child management, (b) cognitive modification, (c) relaxation, and (d) systematic desensitization.

The study sought answers to the following questions related to physical child abuse: (a) Does assessment-based treatment decrease abusive behavior as measured by self-report and/or behavioral observations and indications? (b) Is more than one treatment modality necessary to reduce abusive behaviors to criteria? (c) Does assessment-based intervention result in knowledge and performance competency?

Definition of Child Abuse

There is no consensually accepted definition of child abuse (Burgess & Conger, 1978; Emery, 1989; Giovannoni & Becerra, 1979; Goldstein et al., 1985; Herzberger, 1990).

> The issue of defining abuse and neglect is one of central importance and logically precedes any discussion of incidence, etiology, or treatment. The vagueness and ambiguities that surround the definition of this particular social problem touch every aspect of the field--reporting system, treatment program, research and policy planning. (Martin, 1978, p. 1)

One of the conceptual problems in defining child abuse lies in the fact that abuse is a behavior that falls along a continuum of parent-child relationships, ranging from the most routine parental discipline at one extreme to parentally induced injury or death at the other (Burgess & Conger, 1978). In order to legally mark the point on this continuum that constitutes abuse, society must determine the very fundamental issues of what is acceptable child rearing and what are the limitations on the exercise of parental authority (Giovannoni & Becerra, 1979). Emery (1989) doubts that definitions of abuse will ever meet scientific standards because calling an act "abusive" is a social judgement.

Legally, individual states define the limitations of parental authority. Each of the 50 states and the 10 Canadian provinces has enacted some form of legislation for the prevention of child abuse (Biller & Solomon, 1986). Emery (1989) suggests that researchers use these

determinations of the community as externally validated, but Giovannoni and Becerra (1979) report that state laws use a variety of definitions. According to Biller and Solomon, (1986) the Federal Child Abuse and Prevention Act of 1973 defined child abuse as:

> physical or mental injury, sexual abuse, negligent treatment or maltreatment of a child under the age of 18, by a person who is responsible for the child's welfare, under circumstances that indicate that the child's health or welfare is harmed or threatened thereby (p. 18)

The intent of the present study was to focus on physical child abuse, excluding neglect and sexual abuse. The more specific definition offered by Burgess and Conger (1978) conforms to that focus: "Child abuse refers to nonaccidental physical and psychological injury to a child under the age of 18 as a result of acts perpetrated by a parent or caretaker" (p. 1163).

CHAPTER II

REVIEW OF THE LITERATURE

Historical Background

Only in the last century has violence toward children by their own parents been considered criminal (Biller & Solomon, 1986). In 1962 Henry Kempe coined the emotive expression "battered child" to bring attention to the plight of abused children (Kempe, Silverman, Steele, Droegemueller, & Silver, 1962), and in 1968 Kempe and Helfer edited their seminal work using that phrase as its title. The Federal Child Abuse and Prevention Act, passed in 1973, established the National Center of Child Abuse and Neglect with responsibility and increased funding for research and education (Biller & Solomon, 1986). The mid-1970s saw both clinical and research attention of psychologists increasingly turned toward child abuse (Smith, 1984).

Early explanations of abusive behavior originating from the medical profession focused on personal characteristics of abusive parents (Burgess & Richardson, 1984). Suggested parental characteristics that place a parent at risk for child abuse include mental illness (Elmer, 1967), low self-esteem (Spinetta & Rigler, 1972), and a history of having been abused as a child (Kempe et al., 1962; Steele & Pollock, 1968). This medical conceptualization is referred to as the Psychiatric Model. Wolfe's 1985 review concluded that studies have failed, overall, to identify personality

characteristics that differentiate between abusive and nonabusive parents. Herzberger (1990) suggests that even the ubiquitous "intergenerational cycle of child abuse" that has been discussed for the past 20 years (e.g., Leifer & Smith, 1990; Spinetta & Rigler, 1972) may be a theory that was transformed into a "fact" by virtue of repetition, not research.

More recent attention has focused on a social-psychological approach that suggests that situational variables affecting life stress are associated with the incidence of child abuse (Burgess & Richardson, 1984; Herzberger, 1990; Lawson & Hays, 1989; Wahler, 1980). This interactional model sees individual characteristics as predisposing factors that produce abusive behavior only in the presence of aversive child behavior in a stress-filled environment (Wolfe, 1985).

In spite of the different foci of these two conceptual approaches, they share important commonalities and are not radically opposed viewpoints of child abuse (Wolfe, 1985). The confluence of these two conceptual approaches lies in the following summation. Three factors are necessary for child abuse to occur: a person with potential for inflicting abuse, precipitating situational stressors, and a target child. Considerably less attention has been paid to etiological contribution the last two factors (Bauer & Twentyman, 1985).

Research on Intervention

A number of intervention studies have conceived the abusive act of a parent as resulting from the parent's inability to deal effectively with the child's behavior due to lack of appropriate child management skills (e.g., Bousha & Twentyman, 1984; Sandler, VanDercar, & Milhoan, 1978; Spinetta & Rigler, 1972; Wolfe et al., 1981). Most of the intervention approaches reviewed by Isaacs (1982) involved some form of parent training, and most of that parent training has been aimed at improving the child management skills of abusive parents.

Training abusive parents in child management skills has been shown to reduce aversive behavior (e.g., Denicola & Sandler, 1980; Marvel, 1987; Reid, Taplin, & Lorber, 1981; Wahler, 1980). Parent training has been less effective at increasing positive parent-child interaction, and the treatment effect has not always maintained during follow-up (Marvel, 1987). Smith's 1984 review summarizes several reports as indicating that changing child management skills may not be sufficient to eliminate abusive behavior, "it is very necessary that parents should also change their attitudes" (p. 337).

Not all interventions have focused exclusively on teaching child management skills. Studies have used various approaches to help parents manage stress in their environment. One of the early intervention studies by Sandford and Tustin (1974) involved desensitizing an abusive

father to his child's excessive crying. Denicola and Sandler (1980), in addition to training parents in child management, taught cognitive coping strategies. Koverola, Elliot-Faust, and Wolfe (1984) also used a stress management intervention that included deep muscle relaxation, imaginal desensitization, and anger control techniques.

The most recent trend in the literature is the multimodal treatment approach (e.g., Goldstein et al., 1985; Koverola et al., 1984; Lutzker & Rice, 1987; Marvel, 1987; Wolfe, 1985). These authors suggest training in multiple skills including child management, stress management, and cognitive coping strategies. There is wide-spread agreement that child abuse is not a unitary behavior in definition, causality, or response to treatment (e.g., Koverola et al., 1985). Wolfe calls it "a notoriously multifaceted disorder" (1985, p. 464). Lutzker and Rice (1984) call their approach ecobehavioral, meaning that child abuse is "seen as a multifaceted problem in need of multifaceted treatment services" (p. 64).

The present study used a four component, assessment-based approach to treatment with components consisting of parent training in child management, cognitive coping, autogenic relaxation, and systematic desensitization. This review of the literature will now focus on the specific components to be used in this study.

Child management training. Child abuse may occur because the parent lacks the skills to effectively control a

child's inappropriate behavior in a nonviolent way and to reinforce appropriate behavior (Wolfe et al., 1981). The literature consistently indicates that abusive parents exhibit an "excessive reliance upon aversive methods of control concomitant with a lack of consistent, positive child management techniques" (Sandler et al., 1978, p. 263).

Optimism about the potential of parent training was growing in the early 1970s. Studies like the Portage Project, which was funded in 1969 (Shearer & Loftin, 1984), showed that parents could be trained to teach their handicapped children at home. Parent training in child management skills was an obvious intervention option and became one of the first, most frequent, and most successful interventions in child abuse (Isaacs, 1982; Smith, 1984; Wolfe, 1985).

Jeffery (1976) used a single-subject design to study the impact of training a two-parent, abusive family to increase positive and decrease negative verbal responses to their child. He used a token reinforcement plan whereby the parents were rewarded when their positive responses exceeded their negative responses. In order to observe generalization of the laboratory-trained behaviors, Jeffery placed an audio recorder in the home to record family interaction at random times throughout the day. Results indicated an increase in positive and a decrease in negative interactions in the home. No follow-up was reported.

Sandler et al. (1978) used a home-based program to train parents who were at risk for child abuse in behavioral management skills. They reported a decrease in aversive behavior and an increase in positive interaction. That study has been replicated a number of times (Crozier & Katz, 1979; Denicola & Sandler, 1980; Reid et al. 1981). The Denicola and Sandler (1980) Study used two treatment components, child management and stress management coping skills, in an A-B design (Kazdin, 1982). The two families involved in the study improved under both conditions.

Wolfe et al. (1981) provided group parent training in the clinic and competency-based training in the homes of the families. Their subjects were 16 court-referred, abusive parents who were randomly assigned to a treatment and a control group. Results indicated increases in child management skills and decreases in child problems for treatment families that were significantly better than those in the control families.

Brunk, Henggeler and Whelan (1987) compared parent training in child management skills, patterned on Wolfe and colleagues (1981), with a family-systems intervention aimed at changing patterns of interaction between parents and children. They reported that both groups showed decreased parental psychiatric symptomology, reduced stress, and a reduction in the severity of problems. Parent training was more effective at reducing identified social problems.

Systemic intervention was more effective at restructuring parent-child relations.

A number of parents in the above studies failed to benefit from parent training in child management skills. Koverola et al. (1985) ascribe those failures to "situational and individual characteristics that limit the effectiveness of structured parent training" (p. 500). Smith's 1984 review concluded that changing behavior may require changing attitudes in addition to teaching parenting skills. Wolfe (1985) recommended teaching a variety of skills (e.g., child management, relaxation, and anger control) in intervention programs to decrease the failure rate.

Stress management. Stress has been implicated as a precipitating factor in child abuse by several studies (Lawson & Hays, 1989; Miller & Myers-Walls, 1983). Justice and Duncan (1976) found that abusive parents face greater stress, as measured by life change scores, than nonabusive parents. Wahler (1980) investigated the stress invoked by social isolation. He found a significant relationship between social contacts and child abuse. On days when insular mothers had a higher proportion of friend contacts, the mother-child interaction was more positive. Corse, Schmid, and Trickett (1990) recently reported that abusive families that they studied had fewer peer relationships and more limited contact with the wider community than non-abusing families. Wolfe, Fairbank, Kelly, and Bradlyn

(1983) found that abusive parents exhibit greater physiological responses to stressful child-related stimuli.

This study will use three approaches in training parents to manage environmental stress factors. Parents may be trained in cognitive coping skills, autogenic relaxation, and/or systematic relaxation. In addition to these three primary stress management approaches, teaching child management to parents who are lacking in these skills could reduce family conflict and thereby reduce stress in the home.

Cognitive coping skills. Cognitive coping or cognitive modification skills are sometimes referred to as anger control training or problem solving training in the child abuse literature, however these skills can be used to cope with any undesired feeling or attitude and to solve emotional and cognitive problems (Burns, 1980; Ellis, 1984).

Hansen, Pallotta, Tishelman, and Conway (1989) recently reported that abusive parents were deficient in problem solving skills compared with parents from the community and with other parents from clinical populations.

Bauer and Twentyman (1985) analyzed the attributions of abusing mothers and report that they "consistently ascribed more malevolent intentionality to their child than the other [nonabusing] mothers" (p. 335). Cognitive coping skills provide a tool to impact parental perceptions and attributions of child misbehavior.

Trickett and Susman (1988) studied parents' perceptions of their children and reported that in comparison with nonabusive parents, abusive parents were less satisfied with their children and saw child rearing as more difficult and less enjoyable.

Koverola and colleagues (1985) concluded:

> Clearly, environmental stress factors, negative social contacts, child behavior and parental perceptions of the child exert an important influence upon parental behavior toward the child, and thus need to be considered carefully in the assessment and treatment of maladaptive parenting. (p. 500)

Some form of cognitive coping strategy has been used in several studies (e.g., Denicola & Sandler, 1980; Egan, 1983; Koverola et al., 1984; Marvel, 1987; Sandler et al., 1978). All of these studies used cognitive-coping training in combination with other forms of intervention. Because of research design and intrasubject variability, the contribution of the cognitive component has been difficult to isolate.

There is experimental evidence that abusive parents are more sensitive to aversive child-related stimuli than nonabusive parents. Bauer and Twentyman (1985) report that their data suggest a "generalized pattern of hyperresponsivity exists" (p. 335) in abusive parents. Other studies show heightened physiological responses of abusive parents to stressful child-related stimuli (e.g., Frodi & Lamb, 1980; Wolfe et al., 1983). This study proposed to use systematic desensitization as a treatment

for hyperresponsivity and relaxation as a treatment for elevated physiological responsiveness.

Relaxation training. Abusive parents have been found to exhibit greater physiological responses to stressful child-related stimuli when compared to nonabusive parents. Wolfe and colleagues (1983) presented videotaped scenes of stressful parent-child interactions to abusive and nonabusive mothers. Abusive mothers showed higher electrodermal responses than nonabusive mothers. Frodi and Lamb (1980) report both heart rate and skin conductance are higher for abusive mothers than nonabusive mothers when they are shown videotaped scenes of a crying infant. Abusive mothers also maintained the physiological arousal longer when the aversive stimuli were removed.

Denicola and Sandler (1980) used a combination of coping skills and child management in an A-B design (Kazdin, 1982). The coping skills included cognitive modification and progressive relaxation. The two families involved in the study improved under both conditions, making differential evaluation difficult.

Stress management training that included deep breathing, imagery, deep muscle relaxation, and cognitive modification was combined with child management by Barth, Blythe, Schinke, and Schilling (1983). In spite of the fact that no evidence was presented that parents actually learned the stress management skills (a common short coming of

studies in this area), self-report data indicated decreased anger and irritability.

Koverola and colleagues (1984) used a combination of treatments including parent training in deep muscle (progressive) relaxation, imaginal desensitization, cognitive coping skills, and child management. Child management was the initial treatment, and the others were added in response to apparent client needs. They interpreted the results in terms of parental deficits in coping abilities interfering with the parent's ability to apply child management techniques successfully.

Systematic desensitization. In an early study using desensitization as an intervention for child abuse, Sandford and Tustin (1974) trained an abusive father to increase his tolerance of his child's crying to 15 minutes, which gave the child's mother time to pacify the child. They used an audio recording of the child crying for the desensitization process. During the baseline phase the experimenters found that the father could listen to the tape for an average of only one minute before removing the headphones. During the training phase the father was reinforced for listening to progressively longer periods of crying. The reinforcement consisted of playing the father's preferred type of music. He was also shown a video tape of the child laughing and playing during the playing of the music with the intent of developing the sight of the child as a conditioned reinforcer. Training was terminated when the father reached

the 15-minute criterion at the 13th session. Evaluation of the effectiveness of this study was limited by a short (two week) follow-up.

Wolpe's (1958, 1982) systematic desensitization is based on the theory that an individual cannot simultaneously experience relaxation and physiological arousal. The individual is trained in relaxation and then exposed to a hierarchy of stimuli starting with the subjectively least disturbing. The intent is that the individual will learn to maintain the relaxed state and thus avoid the undesired physiological arousal.

Assessment. Recent reviews (Smith, 1984; Wolfe, 1985) and studies using multimodal intervention approaches (e.g., Egan, 1983; Koverola et al., 1984; Lutzker & Rice, 1984; Marvel, 1987; Wolfe et al., 1981) have supported the need for an assessment-based, multimodal treatment program for child abuse. A number of treatments have been shown to be effective with some subjects, but little has been written on the efficacy of assessment-based treatment. Most of the multimodal treatments have used the shotgun approach and found that different treatments are effective to differing degrees with individual subjects. Marvel (1987) concluded, "Comparison of treatment components showed idiosyncratic patterns of effectiveness in reducing abuse, suggesting that treatment programs should be tailored to the individual needs of each parent" (p. XI).

CHAPTER III

METHOD

Subjects

The target population for this study was parents of any age for whom allegations of abuse had been substantiated by investigation, admission, or court conviction and who were currently living with the abused child.

Parents were recruited from the above population via referral from the local child protection and treatment agencies. Agencies referred only parents for whom allegations of abuse had been substantiated by investigation, admission, or by court conviction. The six subjects who entered treatment had been referred to child protective services for physical child abuse an aggregate total of 17 times before treatment. The experimenter visited the Utah State Division of Family Services (DFS) and Bear River Mental Health (BRMH) in Logan, Utah, and explained the assessment-based treatment to be provided in this study. The recruiting approach presented to prospective subjects focused on the potential of assessment-based treatment to provide individually tailored treatment programs. The agencies were asked to refer parents with telephones or assist the parents in getting telephones (cf. Marvel, 1987). DFS had funds available to assist in that requirement. The telephone was used to schedule monitoring visits, treatment sessions, and encourage data recording.

A total of seven parents (five females and two males) were interviewed by the experimenter upon referral from protection and treatment agencies. All seven of the parents agreed to enter the study. Only one parent dropped out, and that parent elected to drop out during baseline as a direct result of being assaulted by a live-in partner who objected to home monitoring visits. Six of the seven parents who were interviewed for participation in the study were married. Ages ranged from 22 to 52. Table 1 summarizes characteristics of parents interviewed for participation in the study. Three of the seven parents had participated in previous parent training programs.

Table 1

Characteristics of Parents Interviewed for Participation in Study

Age	Sex	Marital Status	Referral Source	# of Times Reported[a]	Termination Status
48	F	Married	BRMH	1	Completed
24	F	Married	DFS	3	Completed
52	M	Married	DFS/Court	4	Completed
24	F	Single/ Live-in	BRMH	1	Dropped Out (Assaulted)
33	F	Married	DFS	3	Completed
22	M	Separated	DFS/Court	4	Completed
28	F	Married	BRMH	2	Completed

[a]Number of times subject was reported to DFS for child abuse before treatment in the present study.

Setting and Equipment

The study was conducted in three settings: a laboratory on the Utah State University (USU) Campus, an office at BRMH, and the subjects' homes. The laboratory, which was approximately 8 x 11 feet, contained a comfortable reclining chair, instruments for detecting and recording the subject's physiological state, (including EMG, ST, EDR, and HR) an audio recorder, and accessory items for attaching electronic sensors to the subject. The cognitive modification training took place in a therapy office at BRMH. Child management training was primarily conducted in the subjects' homes.

The following equipment was used to measure the physiological variables: the Autogen 1100, an electromyograph manufactured by Autogenic Systems, Inc. of Berkeley, California; the Autogen 1000 Feedback Thermometer, manufactured by Autogenic Systems; the Autogen 3000 Dermograph made by Autogenic Systems; heart rate was measured by the HR/BVP 100T, produced by Thought Technology Limited; and in the home setting, skin temperature was measured by a Biotic Band II from Bio-Temp Products, Inc. of Indianapolis, Indiana.

Experimental Design

A combination of multiple-baseline and multiple-treatment design (Kazdin, 1982) was used in this study. Choice of design was limited by the number of subjects

available, ethical considerations, and the use of assessment to determine which treatment or treatments were used and in what order the treatments were used. It is not ethical (and possibly illegal when treatment is court ordered) to withhold treatment from abusive parents for an extended period of time (i.e., assignment to a control group). Azrin's (1977) observation that rarely in clinical situations are single-variable procedures effective has been shown by the literature to be particularly accurate with child abuse intervention. He recommended single-subject designs as the way to study clinical interventions composed of more than one component. Single-subject designs are an appropriate investigative tool for examining new procedures that may require refinement before a large control-group study is undertaken.

Most of the empirical data on child abuse intervention come from quasi-experimental (Cook & Campbell, 1979) designs (Isaacs, 1982; Smith, 1984). Isaacs' 1982 review specifies multiple-baseline designs as appropriate for meeting the ethical and legal restraints inherent in child abuse research.

Treatment in a multiple-baseline across subjects design is introduced to each subject at a different point in time. If each individual's dependent measures change from the baseline when treatment is introduced, the effects can be attributed to the intervention and not to extraneous variables (Kazdin, 1982). In the multiple treatment design,

the baseline is followed by more than one treatment, introduced consecutively.

The six parents were placed into one of the four treatments based on the initial assessment. The assessment procedures were implemented as soon as possible after the subject was referred. Resources limited treatment of subjects to three subjects at any given time, however this theoretical limitation had no impact, as recruitment did not supply subjects at a rate that exceeded this limit. The length of the baseline condition varied from one to four weeks as shown in Table 2.

Table 2

Number of Weeks Subjects Were in Each Experimental Condition

	Baseline	Treatment 1st Phase	Treatment 2nd Phase	Probe
Subject 1	1	Cognitive Mod 7	Child Mgt 6	2
Subject 2	2	Child Mgt 6	Child Mgt 6	2
Subject 3	2	Cognitive Mod 9	Child Mgt 10	2
Subject 4	3	Cognitive Mod 6	Cognitive Mod 6	2
Subject 5	4[a]	Cognitive Mod 6	Cognitive Mod 6	2
Subject 6	4	Relaxation 13	Child Mgt 7	2

[a]Non-continuous weeks as Subject failed to provide data (see p. 101).

Follow-up probes were conducted at four weeks and at 12 weeks to assess maintenance of treatment effects.

Dependent Measures

Dependent measures were collected in three modes: behavioral, physiological, and self-report. Data were collected in four settings: in the subjects' homes, in the laboratory at USU, in the BRMH therapy office, and from the records of community agencies. Physiological and self-report data were collected in both home and laboratory settings. Behavioral data include audio recordings and observations made in the subject's home and reports of abuse recorded by DFS and BRMH. In this community DFS records all complaints of child abuse received by the police. The final records checks with the public agencies were made at least one year after treatment ended.

Each parent was requested to record a 30-minute audiotape during a high-stress period two times a week. Recordings were to be made at the same time each week. Audiotapes were coded using a form of the Behavioral Coding System Modified for High Risk Parents and Young Children (Koverola, Edwards, & Wolfe, 1983). Each audiotape was coded by a research assistant naive to the treatment procedures. Six behavioral categories were coded for occurrence/nonoccurrence during 60 30-second intervals. An audiotape coding sheet is included in Appendix H. Reliability checks were made on 9% of the coded audiotapes

using a point-by-point agreement ratio (Kazdin, 1982). Reliability ranged from 78 to 100%.

Physiological data included pre and posttreatment stress profiles, and the targeted physiological parameter that was recorded in the laboratory and in the home of the subject who received relaxation training. In-home measurements were collected once a week. Physiological parameters were recorded at 30-second intervals during each measurement session.

The assistant monitoring the physiological parameters in the home also functioned as an observer, coding positive and negative parental statements and parental verbal abuse during the 30-minute physiological monitoring session. The home observation coding sheet is included in Appendix F.

Self-report data were collected in both home and laboratory settings. Self-ratings were collected on five kinds of behaviors: parent's level of anxiety, parent's negative feelings toward children, frequency of negative verbal statements to children, frequency and type of negative physical contacts with children, and frequency of positive verbal statements to children.

One form was used to collect all self-report data from parents (see Appendix G). Self-reported anxiety ratings used a 0 to 100 Subjective Units of Distress (SUDS) rating with 0 being totally relaxed and 100 being the most tense the parent has ever felt. The self-reported strength-of-

negative-feelings-toward-children rating also used a 100-point scale to rate the strength of negative feelings with 0 being no negative feelings and 100 being totally negative.

Two kinds of paper & pencil information were collected. The Knowledge of Behavioral Principles as Applied to Children (KBPAC) (O'Dell, Tarler-Benlolo, & Flynn, 1979) was used as a measure of the parent's knowledge of child management techniques. The Beliefs Inventory (Davis, Eshelman, & McKay, 1980) provided a measure of the type and strength of the subject's dysfunctional beliefs.

Content validity of the 50 item KBPAC is based on the assumption that the texts from which the items were derived represent the behavioral principles most frequently used by people who work on behavioral programs with children (O'Dell et. al., 1979). The Kuder-Richardson reliability coefficient reported for the KBPAC was 0.94 and the split-half correlation was 0.93 on a sample of 147 subjects who were targeted because of their varied experience with behavior modification. The sample included parents from a local school, parents from a psychology clinic, local teachers, graduate students in psychology, and mental health professionals. A sample of 25 parents who volunteered for a child management workshop were given the KBPAC before and after training. The modal education level for the sample was high school graduate, and the mean IQ was 102. The mean percent correct on odd-even split-halves of the KBPAC was

48% pretest and 85% posttest. A sample of 91 undergraduate students was provided similar training and increased their pre-post scores from 57% to 85%.

While written knowledge of behavioral principles may not translate to actual skills with children, scores on this instrument were assumed to give some relative indication of which parents had the greatest deficits in child management skills.

Dysfunctional beliefs and cognitive distortions were assessed using the Beliefs Inventory (Davis et al., 1980). The Beliefs inventory provides scores on 10 irrational ideas. Standardization data were not available for the Beliefs Inventory, nor could the experimenter find a measure of irrational beliefs or cognitive distortions that had been standardized. The Beliefs Inventory was administered to 24 parents recruited from USU, BRMH administrative staff, and parents at an elementary school PTSA meeting. Means and standard deviations for each of the 10 Beliefs Inventory scales were calculated. The results are attached as Appendix I.

Reliability of self-report data. Self-report is often held to be suspect as a dependent measure because it is under the control of the subject and is vulnerable to distortion (Kazdin, 1982). For each of the five self-report measures in this study there was another source of information that provided some data on the accuracy of the

self-report data. Subjective reports on relaxation provide a basis for comparison with the physiological measures. Self-ratings on negative feelings toward children should show a relationship to frequencies of positive and negative statements on the coded audiotapes. The observed frequency of positive and negative statements in the home provides a basis to assess the reliability of both the self-report and the coded audiotape data. Self-reported information on negative physical contacts by parents should show some relationship to the observations in the home, reports from DFS, and parental behavior monitored via the audiotapes.

Procedures

The following procedures were carried out over a period of 27 to 47 weeks (initial contact to final probe) per parent. The original intent was to limit the treatment phase to a maximum of 12 weeks. As the study progressed it became evident that parents frequently could not be trained to performance competency in a single treatment in less than 12 weeks. The treatment phase was therefore extended to a minimum of 12 weeks and a maximum of 20 weeks per parent (see Table 2). The final probe was sometimes more than 90 days after termination of intervention due to scheduling difficulties (e.g., Subject 6).

Assessment. During the initial session each parent was screened to insure that they met the criteria for subjects as outlined in the Subjects section above. Each parent was

informed of the treatment procedures, their rights, and each was given the opportunity to ask questions. Potential benefits were explained and parents were informed that a treatment program would be tailored to their individual needs. They were encouraged to follow through with their individual treatment program. At least one full hour was spent with each parent explaining the four kinds of treatment available, answering questions, and explaining the impositions of data collection. After all questions were answered, parents were asked to read and sign the Consent and Agreement to Participate in a Research Project form (see Appendix A).

Only one parent had a medical history that indicated caution while participating in relaxation training (high blood pressure and diabetes). The concern is that if an individual taking medication for a stress-related condition learns to relax, a reduction in medication may be needed. That parent was required to get a medical release signed by a physician prior to treatment.

At the second meeting each parent selected (with the help of the experimenter) a target 30-minute home situation that the parent found to be aversive. This time period was one in which the parent typically felt or acted in an abusive way. Examples of aversive child behaviors usually occurring at the stressful time included crying at bedtime, fighting with siblings, and whining at meal time. The

interviewer explained the following guidelines for selecting a target situation: (a) the situation should typically occur at a similar time each day or night, (b) aversive child behavior should occur during this time period at least twice a week, (c) the target aversive behavior must include an auditory component (because the target period will be audiotaped), (d) the child behaviors that typically occur during this period must be judged by the parent to be aversive or stress producing, and (e) the parent and at least one child must be present. After the target time period was identified, the parent was provided a small audio recorder, a belt with a compartment for carrying the recorder, and several blank audio cassettes. The parent was instructed on how to use the equipment to record the targeted 30-minute period each day while carrying the recorder in a shirt pocket or the provided belt.

The parent then filled out the self-report data collection form (see Appendix G) that served as the beginning of baseline data collection. The parent also completed the Beliefs Inventory (Davis et al., 1980).

Approximately one week later the parent returned to the laboratory with the audio recordings. The parent completed the Knowledge of Behavioral Principles as Applied to Children (KBPAC) (O'Dell et. al., 1979). The parent then participated in a 20-minute stress profile in which physiological parameters including electromyograph (EMG),

skin temperature (ST), electrodermal (EDR), and heart rate (HR) were measured while at rest and while listening to one of the home audiotapes. (The stress profile procedures and their description are very closely modeled on those of Marvel, 1987.)

Measurement of the physiological parameters (EMG, ST, EDR, and HR) began by having the parent sit in a comfortable reclining chair. Physiological monitoring procedures and equipment were explained to the parent and questions were answered. With the parent's permission, the sites for attaching the EMG electrodes were cleaned with alcohol to remove skin oil. After applying the conductive gel to the electrode, the electrodes were placed on the forehead approximately 1 inch above the center of each eyebrow (Gaarder & Montgomery, 1981) with the ground electrode centered between the recording electrodes. Skin temperature was measured by a thermistor taped on the palmar side of the end of the little finger of the nondominant hand (Autogenic Systems Inc., n.d.). Electrodermal response was monitored by attaching sensors to the ends of the palmar sides of the second, third, and fourth fingers of the nondominant hand. Heart rate was monitored by placing the index or middle finger of the dominant hand into the sensor of a photoplythysmograph. Data from the physiological instruments were recorded every 30 seconds during the 20-minute session.

The parent (with physiological monitoring transducers attached) was instructed to relax for the first five minutes; then a 10-minute, home audiotape of the targeted aversive time periods was played followed by a final five minutes of relaxation. The assumption was that listening to the aversive child-related stimuli (e.g., crying at bedtime, fighting with siblings, or whining at meal time) would provide a sample of the parents' physiological response to child-related aversive behavior.

Following the session, a stress profile was constructed. The stress profile was used to determine the physiological parameter, if any, on which the parent showed the strongest reaction to child-related aversive stimuli. The profile was also used to show which parameter, if any, took the longest time to return to the prestress level.

Individuals whose stress profile met the following criterion for relaxation were not given relaxation training: measurement of all physiological parameters at or above (in the direction of more relaxed) relaxation criterion levels for any five minute monitoring period. The screening criterion for relaxation training for each parameter was as follows: ST above 86 degrees Fahrenheit, EMG below four microvolts, EDR below seven micromhos, or HR below 75 beats per minute. Parents who did not meet the above criteria were considered for relaxation training.

Parents who met the physiological relaxation criteria but showed a definite physiological reaction to the audiotape of their child were considered for systematic desensitization training. Individuals who did not meet the relaxation criteria and who showed a definite physiological reaction to their audiotape were considered for both relaxation and systematic desensitization training.

The initial assessment-based treatment selection was a two-stage process. The first stage was an elimination procedure. Parents who met the set criteria on the initial screening devices or who met the criteria for competency for individual components were not considered for training in those components. The second stage was to select that component in which the parent showed the greatest deviation from the mean on an assessment device or in which the parent scored the greatest deficiency on the competency criteria. When there was no apparent difference in the parent's deficit levels in any of the four areas of intervention, the initial training was child management; as there is more data in the literature supporting the efficacy of that treatment modality. Marvel (1987) found that all of his parents decreased in reported negative physical contacts during child behavior management training. If both relaxation and systematic desensitization were indicated, treatment began with relaxation; as the relaxation skills are used in systematic desensitization training.

Assessment was an on-going process, with parent progress reviewed at least every other week. In deciding whether or not to change to a different treatment modality, all observations were considered, not just those in the initial assessment.

The intervention process (all components) was terminated when the time limit was met or when all of the following occurred:

1. All observations and self-reports indicated negative physical contacts at two or less for 4 weeks.

2. The frequency of verbal abuse as coded from audiotapes was no more than one in 60 minutes.

3. The frequency of negative statements as coded from audiotapes was no more than two 30 minutes.

4. Self-reported negative feelings toward children had decreased from baseline by 50%.

Interventions

Four modes of treatment were available: relaxation, systematic desensitization, child management, and cognitive modification. Treatment was provided in one-hour sessions, with a goal of two sessions each week. Due to scheduling difficulties for experimenters and subjects, the mean number of treatment sessions per week was 1.4. The interventions used in this study were based on or adapted from those used by Marvel (1987).

Relaxation training. Autogenic relaxation (Schultz & Luthe, 1969; Jencks, 1979) was the training approach for this component. The parent who received the relaxation training component received 45-minute training sessions in standard autogenic relaxation exercises. The autogenic approach requires regular practice of the standard exercises that are designed to produce relaxation by focusing on attendant subjective sensations of relaxation, such as heaviness and warmth, while the parent maintains a passive attitude. The use of visual imagery and self-statements are part of this relaxation training. As participants practice these skills that produce physiological changes, observable with the physiological monitors, they learn that cognitive activity mediates subsequent behavior including physiological arousal. The selection of autogenic relaxation for this intervention was based, in part, upon its value in teaching the cognition-behavior connection, which also reinforces the cognitive coping skills training when the two treatment components are used in tandem.

Each session was composed of a five minute baseline, three sets of relaxation exercises, and a five minute final baseline. Each set consisted of a body position/posture check, deep breathing, mental imagery, silent repetition of a specific formula (e.g., "My right arm is comfortably warm."), and termination. Only the first two of Jencks' (1979) exercises were used in this training. A detailed

outline of procedures for relaxation training is provided in Appendix B.

During each relaxation training session in the laboratory, self-report and physiological data were collected. Parents were also asked to practice at home daily and keep a diary. The diary functioned as a motivator and provided a measure of compliance. Physiological data were collected using physiological monitors as described above in the Assessment section.

Training in relaxation was discontinued when one of the following occurred:

1. The parent met the criteria for successful termination of intervention (adequate reduction in indicators of abusive behavior).

2. The parent showed little improvement on the dependent measures for 4 weeks.

3. The parent reported SUDS ratings during relaxation at home and in the laboratory that were below 10, and met the criterion level for the targeted physiological parameter in monitoring at home and in the Laboratory (i.e., ST above 90 degrees Fahrenheit, EMG below three microvolts, EDR below six micromhos, HR below 73 beats per minute. These training criteria are more stringent than the criteria used for initial screening. When the criterion had been met for the targeted physiological parameter, another stress profile was

administered to determine if other parameters should be targeted.

Systematic desensitization. A number of authors have indicated that abusive parents are hyperresponsive to aversive child-related stimuli (e.g., Bauer & Twentyman, 1985; Frodi & Lamb, 1980; Wolfe et al., 1983), and desensitization has been used to treat abusive parents (e.g., Koverola et al., 1984; Sandford & Tustin, 1974).

The assessment processes did not result in the selection of any parents to receive systematic desensitization training. The reasons for parents not being selected to receive this treatment will be explored in the discussion chapter. A description of the treatment that would have been used is included as Appendix C.

Child management training. Each parent selected to receive this training component participated in eight to sixteen individual one-hour sessions of child management training. Parents were provided a manual entitled Parenting Packet: A Step-by-Step At Home Approach to Changing Children's Behavior (Children's Behavior Therapy Unit, n.d.).

Topics presented during child management training included goal setting, principles of reinforcement, differential attention, precision commands, time out procedures, chart systems, contracting, and response cost

techniques. The sequence of training sessions with concepts covered on each topic is attached at Appendix D.

At the beginning of each session, the assigned homework was evaluated and the previous session was reviewed to determine if the concepts presented in that lesson had been learned. Specific questions (e.g., How can you tell if a reinforcer is working?) asked are contained in Appendix D. Further instruction and practice were provided until the parent could demonstrate adequate knowledge of the behavioral principle by answering the questions on that principle. After knowledge had been demonstrated, home audiotapes were monitored for application of the technique. Ability to perform the technique must have been demonstrated by at least one recorded instance of correct application of the technique that was reinforced in subsequent training sessions (catch the parent being good, thus modeling what the parent should do with the child). The differential attention (catch the child being good) technique received focus as a key behavioral principle, and competency in that technique was emphasized.

Training in this component was discontinued when one of the following occurred:

1. The parent met the criteria for successful termination of all intervention (adequate reduction in indicators of abusive behavior).

2. The parent showed little improvement on the dependent measures for 4 weeks.

3. Both of the following occurred: (a) the parent passed 80% of the questions on the Verbal Final Review (see Appendix D), and (b) the last two coded audiotapes showed the frequency of positive statements was at least 5 in 30 minutes. (In Marvel's 1987 study with similar subjects, not one subject would have met this last criterion.)

The knowledge and performance competencies that have been demonstrated as described above do not demonstrate applied competency. If performance competency had been demonstrated, but the technique was not being applied by the parent, several examples of cues or opportunities from the audiotapes were reviewed with the parent. If the parent's comments indicated that the opportunities were not recognized, training for generalization, including training and prompting in the home, were provided. However, if the parent's comments indicated that the parent recognized the cues but did not want to use the technique (e.g., Why should I reward the kid when he is trying to see how far he can push me?), cognitive modification was considered.

Cognitive modification. Modification of cognitive processes has been a component of a number of effective treatment packages (e.g., Denicola & Sandler, 1980; Egan, 1983; Marvel, 1987; Whiteman, Fanshel, & Grundy, 1987). Techniques for this treatment component are based on the

principles of rational-emotive therapy (Ellis, 1984) and on cognitive therapy (Burns, 1980). Undesirable emotions and behaviors are seen as resulting from irrational beliefs and attributions.

The parent was taught a step-by-step problem-solving strategy for handling parent-child conflicts. A key part of the strategy was teaching parents the connection between beliefs or attributions and subsequent emotions (ABC theory of emotion). This was pivotal because it gave parents a tool that they could use to control their own emotions. Ellis (1984) quotes Alfred Adler's summation of this principle:

> No experience is a cause of success or failure. We do not suffer from the shock of our experiences--the so-called trauma--but we make out of them just what suits our purposes. We are self-determined by the meaning we give to our experiences . . . . Meanings are not determined by situations, but we determine ourselves by the meanings we give to situations. (p. 190)

Training in cognitive modification involved one-hour sessions presented at the rate of two per week. Each parent selected to receive this training component was taught a 7-step problem-solving strategy that included the identification of irrational beliefs and stress-producing self-statements. Methods of generating more appropriate self-talk were presented and practiced. Procedures included didactic presentations, modeling, role-playing, completion of worksheets and homework assignments.

At the beginning of each session, homework was reviewed and reassigned with modifications when appropriate. Knowledge and performance competency of the material presented in the previous lesson was assessed by providing a situation and asking the parent to apply the appropriate skills. Specific situations used for evaluating each lesson are contained in Appendix E. Further assessment of competency during the eighth session included the presentation of two problems observed on the parent's home-recorded audiotapes. The parent was asked to apply the problem-solving strategy to both problems. Additional training and practice was provided as needed.

Training in this component was discontinued when one of the following occurred:

1. The parent met the criteria for successful termination of intervention (adequate reduction in indicators of abusive behavior).

2. The parent showed little improvement on the dependent measures for 4 weeks.

3. All of the following occurred: (a) self-reported negative feelings toward children decreased from baseline by 50%, (b) coded audiotapes showed that positive statements toward children have increased from baseline by 50%, and (c) negative verbalizations toward children as coded on the audiotapes decreased 50% from baseline and did not exceed 2 in 30 minutes.

CHAPTER IV

RESULTS

Organization of Results

The first objective of this study was to determine if the assessment-based treatment employed would decrease abusive behavior as measured by self-report and/or behavioral observations and indications. The second objective was to determine if more than one treatment modality would be necessary to reduce abusive behaviors to criteria. The third objective was to determine if the assessment-based intervention package employed in this study would result in knowledge and performance competency.

The number of dependent measures and treatment conditions generated a plethora of data. The presentation of results is organized by the abusive behavior indicator and by the type of dependent measure. For example, if the abusive behavior indicator is number of negative statements to children, graphs showing each subject's self-reported number of negative statements per day, coded negative statements from audiotape, and observed negative statements will be followed by a table summarizing negative statements by all subjects as measured by all three dependent measures. Data on abusive behavior indicators will be presented as follows: (a) negative physical contacts, (b) negative feelings toward children, (c) anxiety rating, (d) physiological stress data, (e) positive statements,

(f) negative statements, (g) parental verbal abuse,
(h) reports to public agencies for child abuse, and
(i) summary of results by subject.

The final results presented in this chapter relate to criteria for termination of treatment and for knowledge and performance competency, followed by a presentation of treatment effects for individual subjects.

Negative Physical Contacts

Negative physical contacts, negative feelings toward children, and anxiety rating were self-report measures. Self-report measures for each individual are presented in Figures 1 through 18 and are summarized in Table 3. Parents were instructed to record their self-report sheets (see Appendix G) daily and the sheets were collected weekly. The graphs display the mean daily frequency for each week computed from daily reports (e.g., Figure 1).

As shown in Figures 1 through 6 and in Table 3, negative physical contacts measured by self-report decreased from the baseline level for each of the subjects who entered treatment. Two of the subjects decreased negative physical contacts to zero. Table 3 shows a 94% decrease from the baseline aggregate mean for all subjects of 3.4 negative contacts per day to a mean of .2 during probe condition.

Subject 5 stopped providing self-reports and failed to keep appointments during baseline. He recommitted to participate after his spouse and his pediatrician

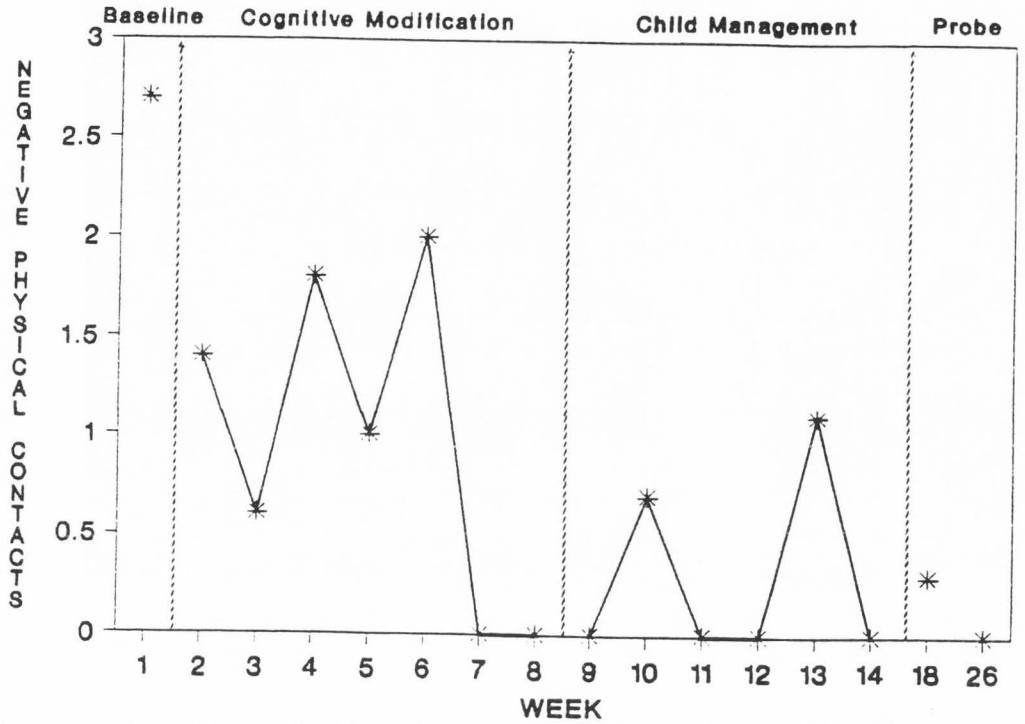

Figure 1. Mean daily frequency of self-reported negative physical contacts across weeks of treatment conditions (Subject 1).

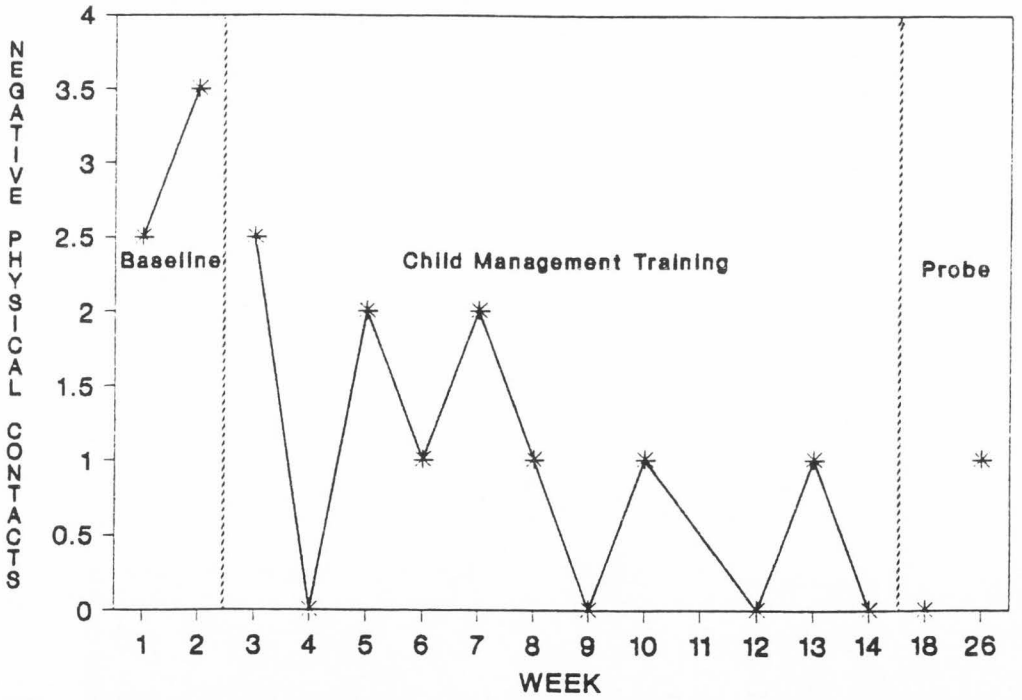

Figure 2. Mean daily frequency of self-reported negative physical contacts across weeks of treatment conditions (Subject 2).

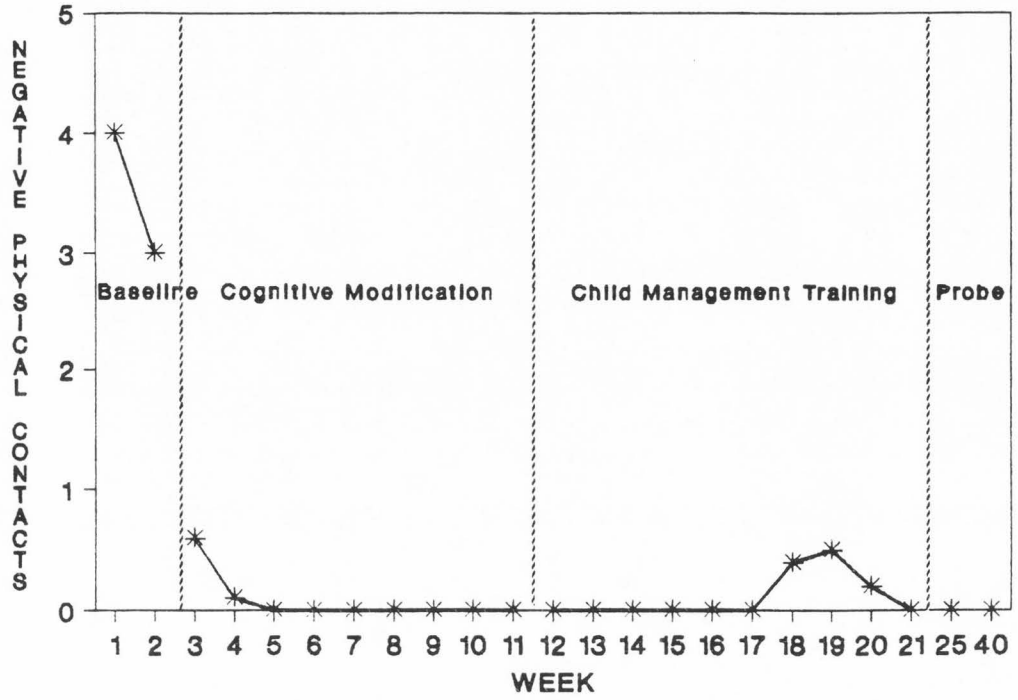

Figure 3. Mean daily frequency of self-reported negative physical contacts across weeks of treatment conditions (Subject 3).

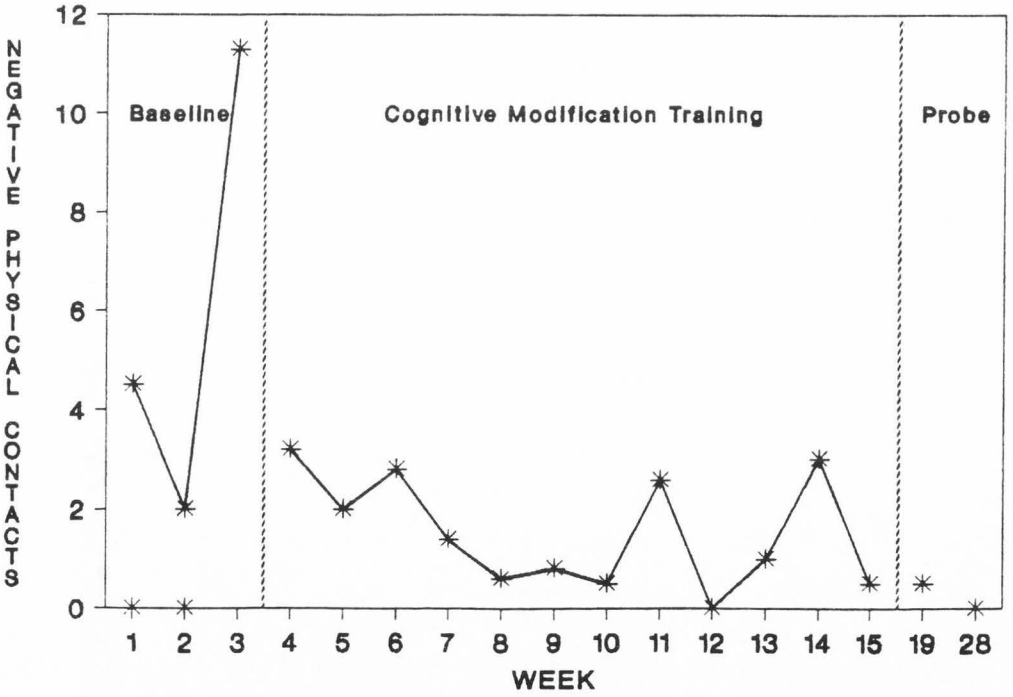

Figure 4. Mean daily frequency of self-reported negative physical contacts across weeks of treatment conditions (Subject 4).

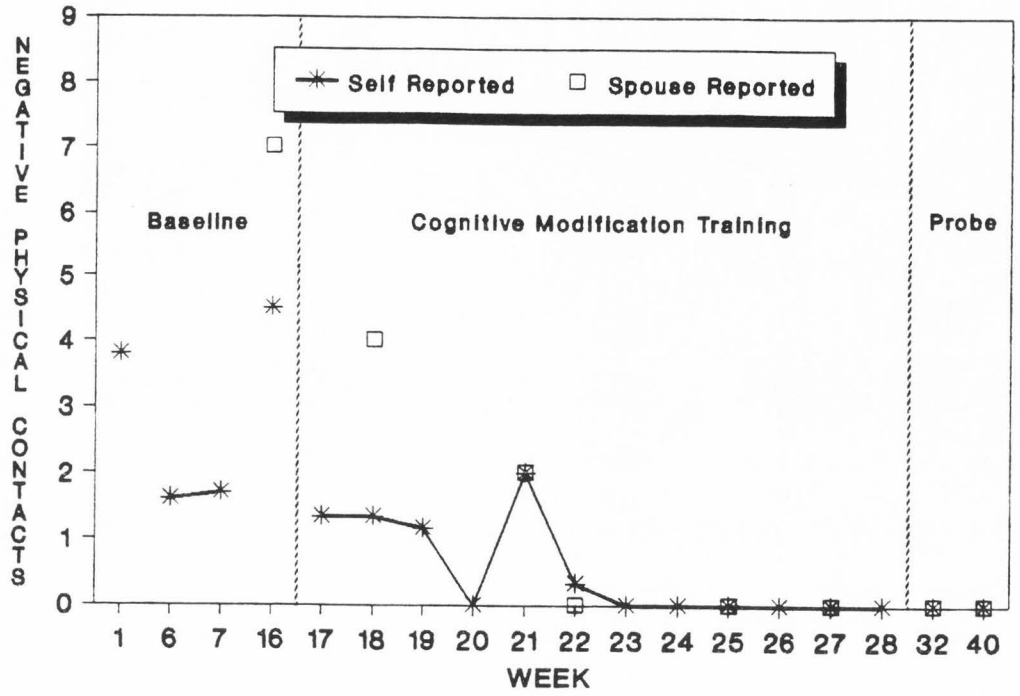

Figure 5. Mean daily frequency of self-reported negative physical contacts and highest daily frequency of negative contacts observed by spouse during week (Subject 5).

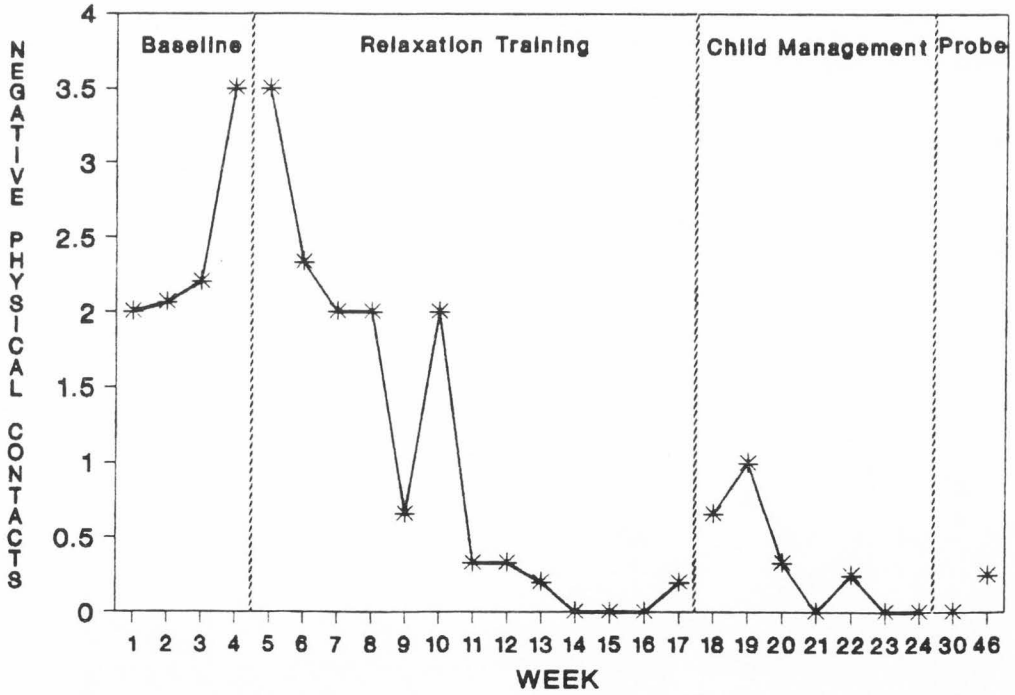

Figure 6. Mean daily frequency of self-reported negative physical contacts across weeks of treatment conditions (Subject 6).

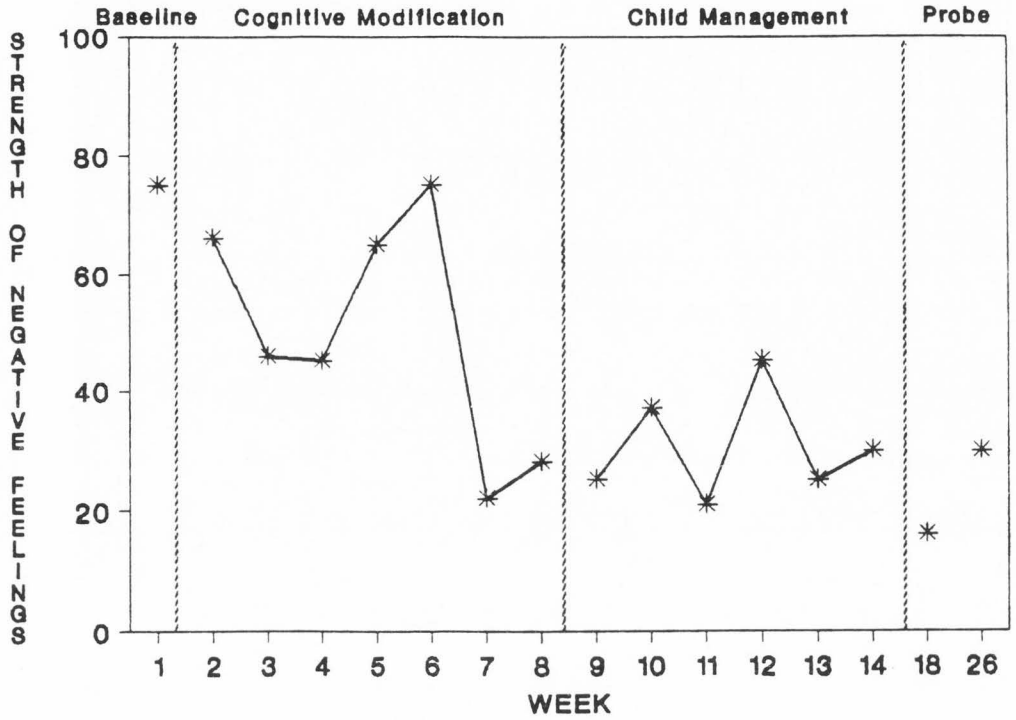

Figure 7. Mean strength of daily self-rated negative feelings toward children (100 is totally negative and 0 is no negative feelings) across weeks of treatment conditions (Subject 1).

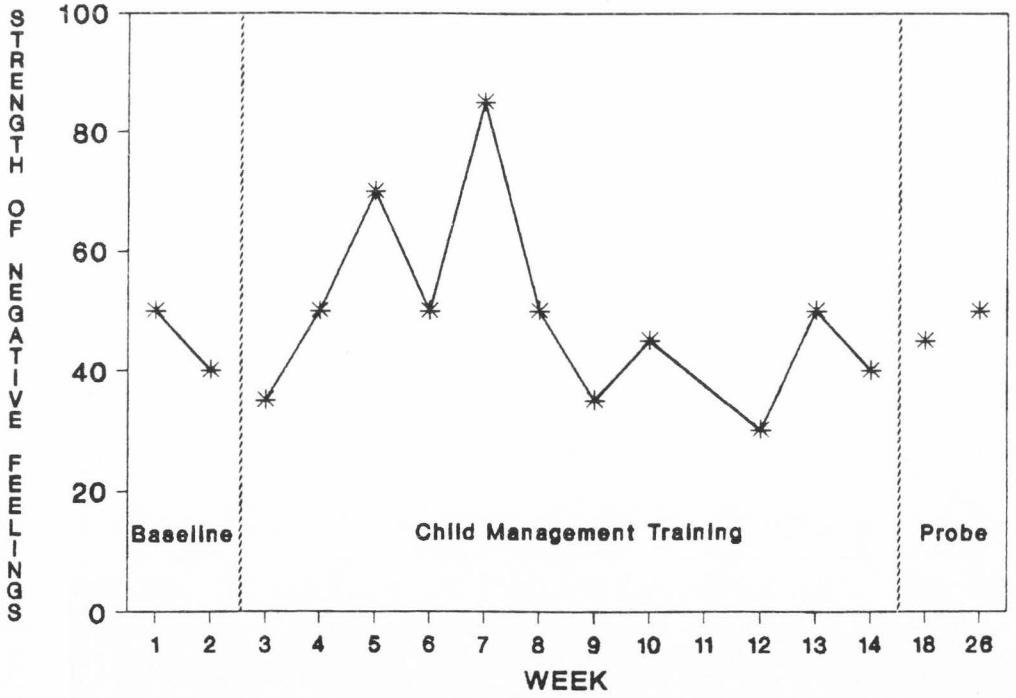

Figure 8. Mean strength of daily self-rated negative feelings toward children across weeks of treatment conditions (Subject 2).

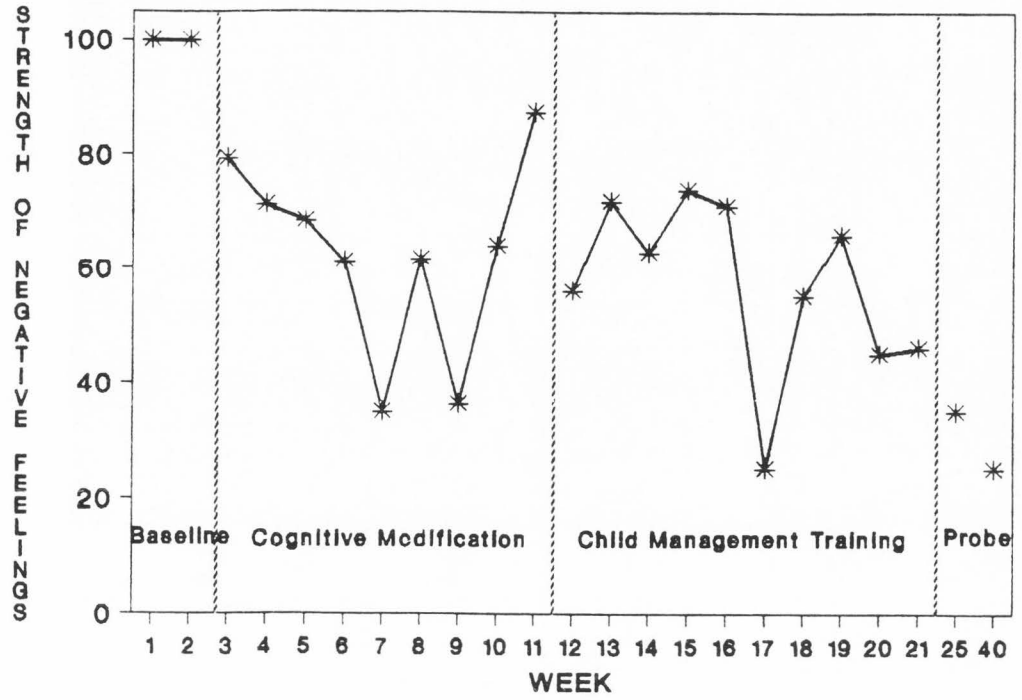

Figure 9. Mean strength of daily self-rated negative feelings toward children across weeks of treatment conditions (Subject 3).

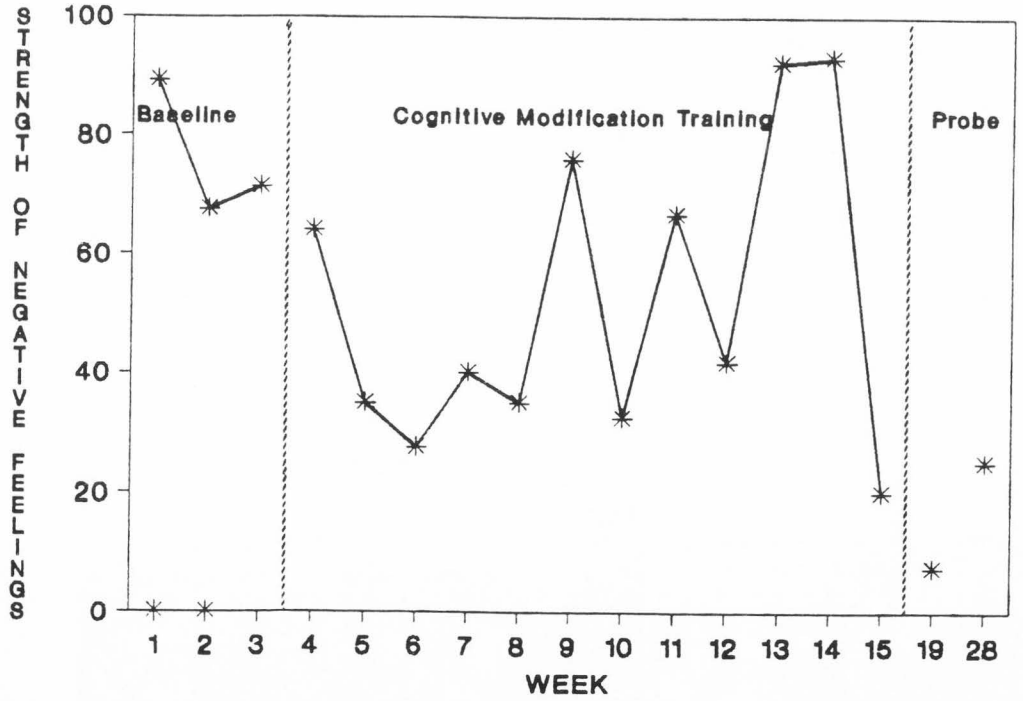

Figure 10. Mean strength of daily self-rated negative feelings toward children across weeks of treatment conditions (Subject 4).

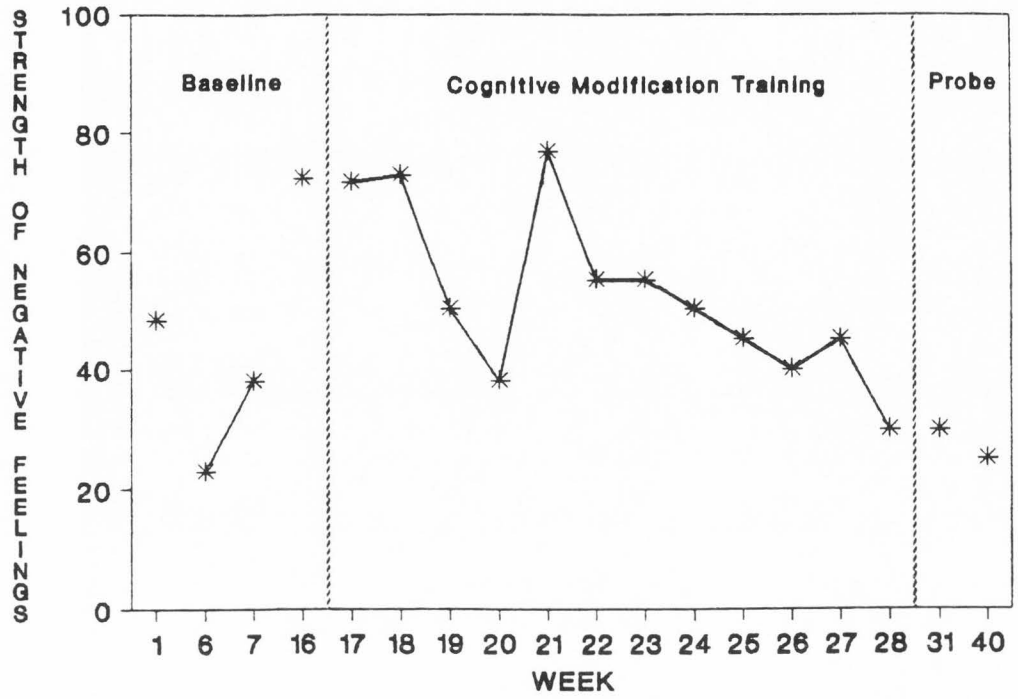

Figure 11. Mean strength of daily self-rated negative feelings toward children across weeks of treatment conditions (Subject 5).

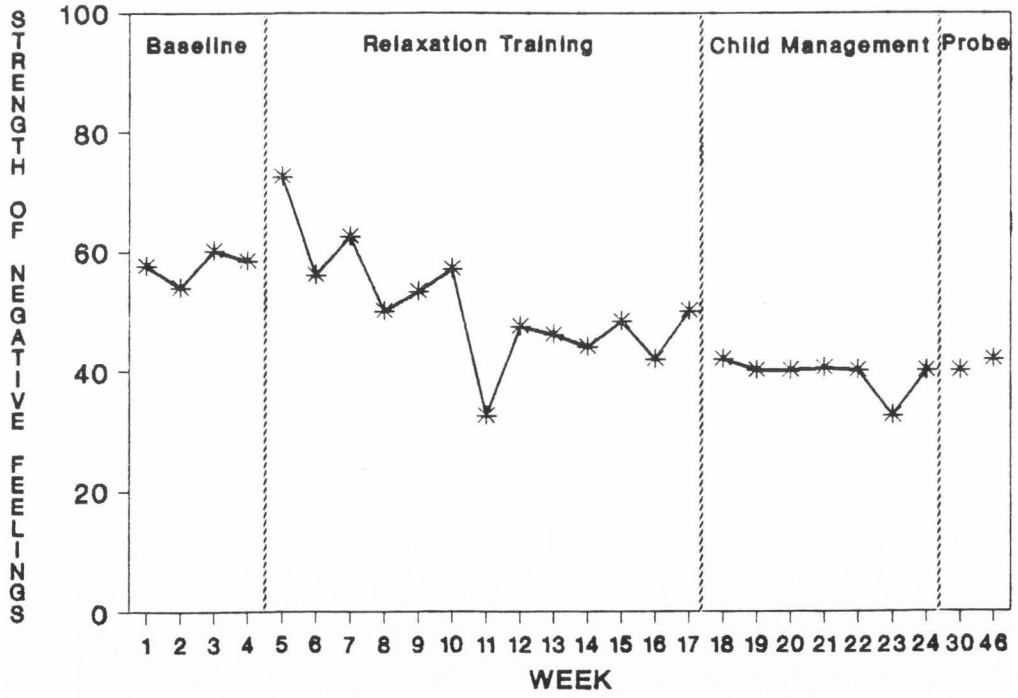

Figure 12. Mean strength of daily self-rated negative feelings toward children across weeks of treatment conditions (Subject 6).

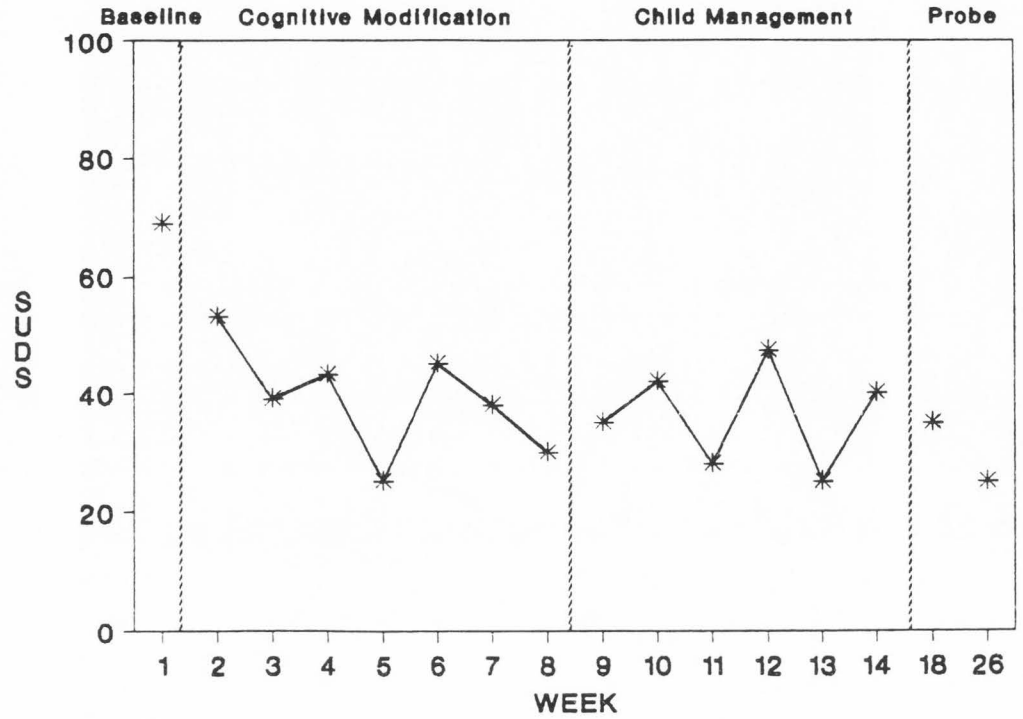

Figure 13. Mean daily self-reported anxiety rating in Subjective Units of Distress (SUDS) (100 is the highest anxiety level and 0 is the lowest) across weeks of treatment conditions (Subject 1).

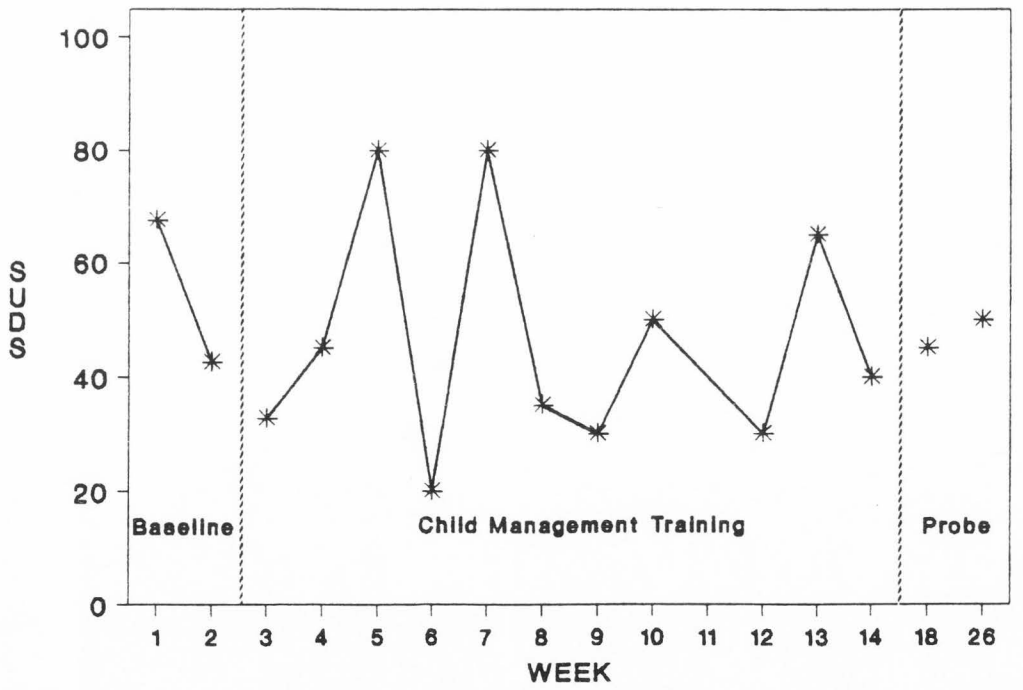

Figure 14. Mean daily self-reported anxiety rating in SUDS across weeks of treatment conditions (Subject 2).

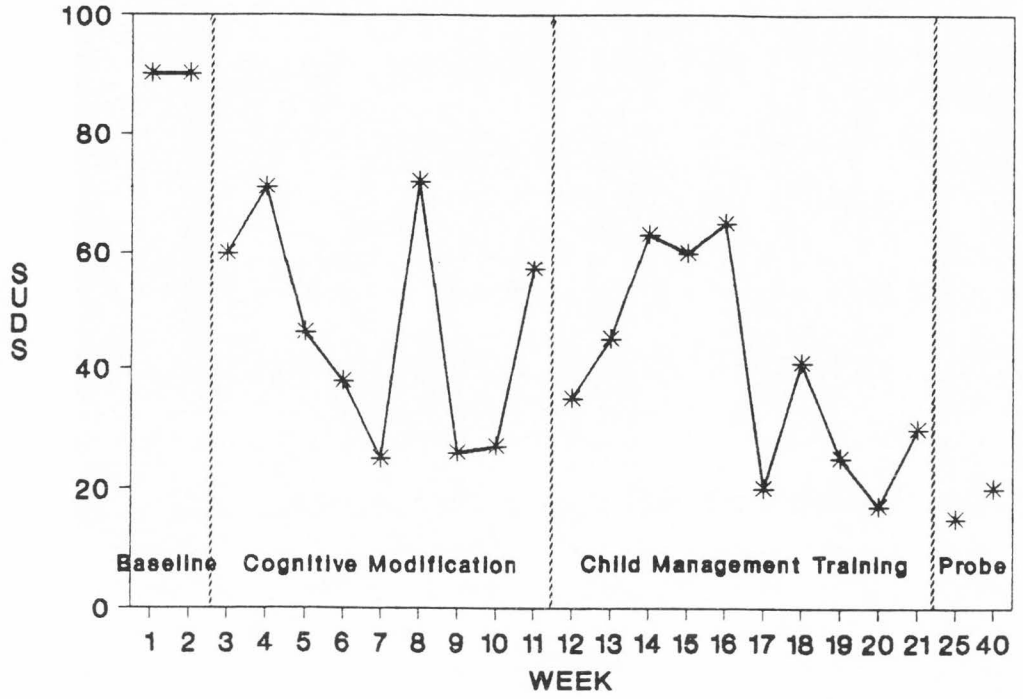

Figure 15. Mean daily self-reported anxiety rating in SUDS across weeks of treatment conditions (Subject 3).

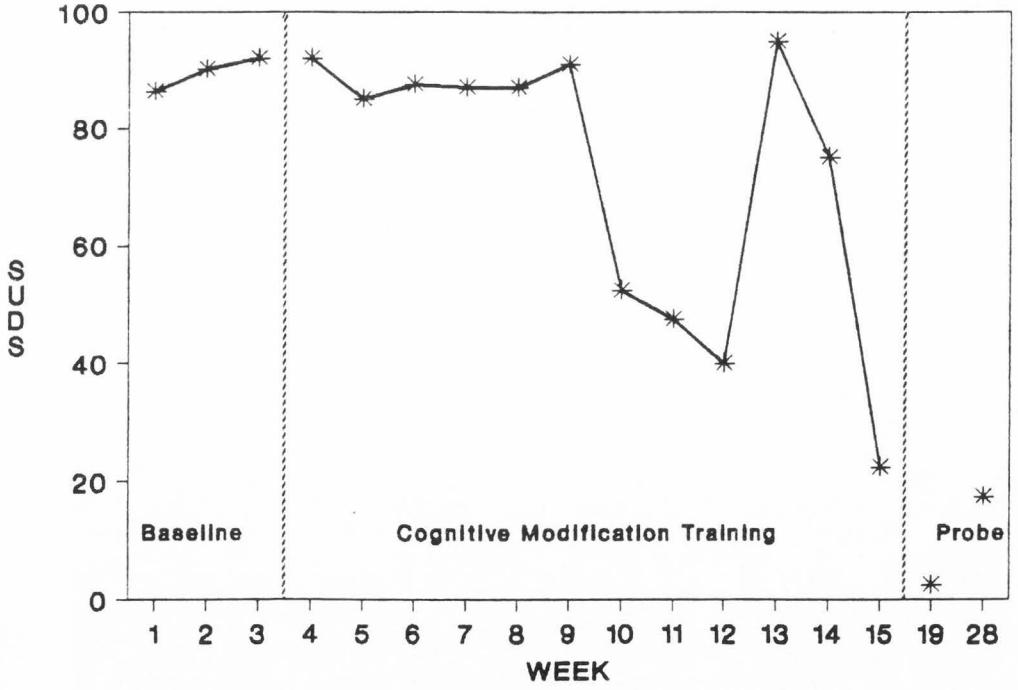

Figure 16. Mean daily self-reported anxiety rating in SUDS across weeks of treatment conditions (Subject 4).

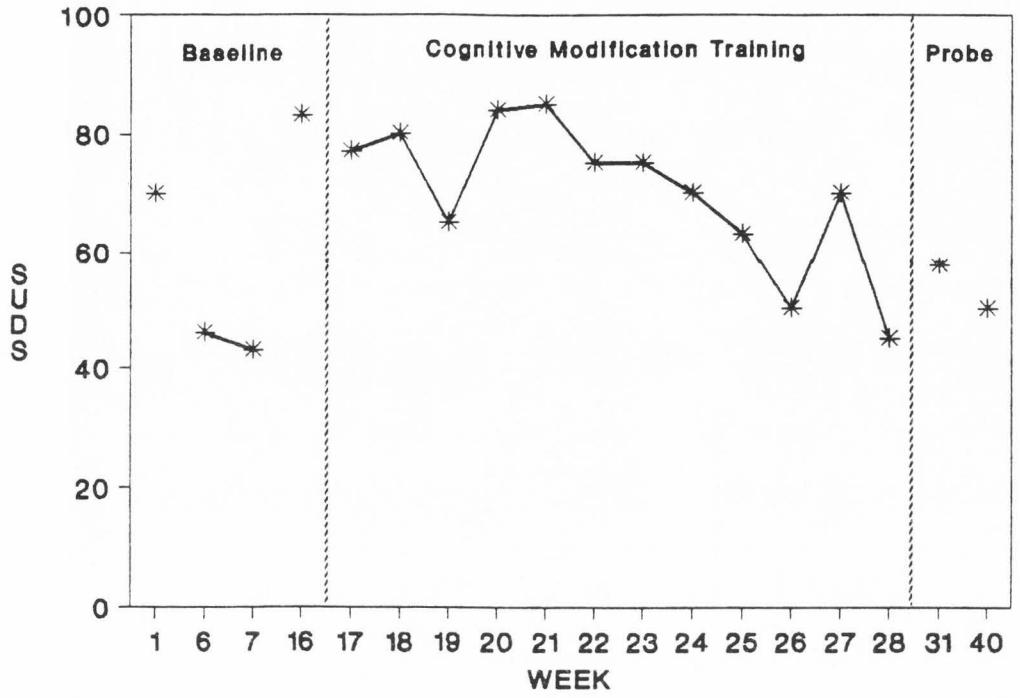

Figure 17. Mean daily self-reported anxiety rating in SUDS across weeks of treatment conditions (Subject 5).

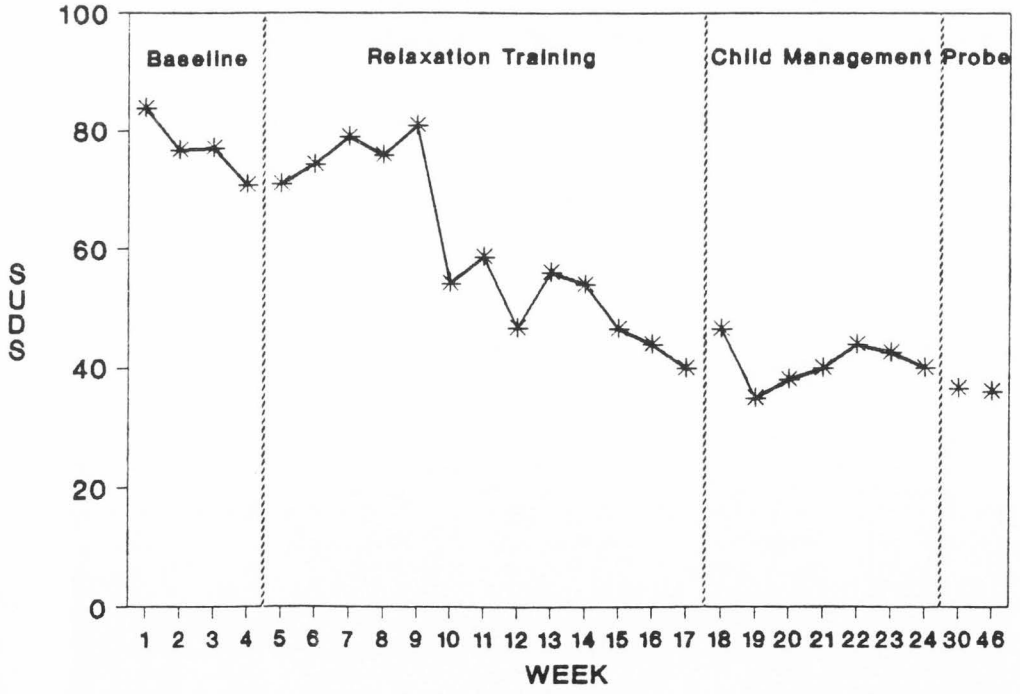

Figure 18. Mean daily self-reported anxiety rating in SUDS across weeks of treatment conditions (Subject 6).

Table 3

Means and Ranges of Three Self-Reported Measures for All Subjects Across All Experimental Conditions

	Baseline	Treatment	Treatment	Probe
Subject 1		**Cognitive**	**Child Mgt**	
Negative Contacts	2.7	1(0-2)	.3(0-1.1)	.2(0-.3)
Negative Feelings	75	50(32-75)	30(21-45)	23(16-30)
Anxiety Rating	69	39(30-53)	36(35-47)	30(25-35)
Subject 2		**Child Mgt**	**Child Mgt**	
Negative Contacts	3(2.5-3.5)	1.4(0-2.5)	.4(0-1)	.5(0-1)
Negative Feelings	45(40-50)	57(35-85)	40(30-50)	48(45-50)
Anxiety Rating	56(43-68)	49(20-80)	43(30-65)	48(45-50)
Subject 3		**Cognitive**	**Child Mgt**	
Negative Contacts	3.5(3-4)	.1(0-.6)	.1(0-.5)	0
Negative Feelings	100	63(35-87)	56(25-74)	30(25-25)
Anxiety Rating	90	47(26-73)	40(17-65)	18(15-20)
Subject 4		**Cognitive**	**Cognitive**	
Negative Contacts	5.9(2-11)	1.8(.6-3)	1.3(0-3)	.3(0-.5)
Negative Feelings	76(68-89)	46(28-76)	57(20-93)	16(7-25)
Anxiety Rating	89(86-92)	88(85-92)	55(22-95)	10(2-17)
Subject 5		**Cognitive**	**Cognitive**	
Negative Contacts	2.9(2-4.5)	1.3(0-2)	0	0
Negative Feelings	46(23-73)	61(38-77)	44(30-55)	28(25-30)
Anxiety Rating	61(43-83)	78(65-80)	62(45-75)	53(50-57)
Subject 6		**Relaxation**	**Child Mgt**	
Negative Contacts	2.4(2-5.5)	1.3(0-3.5)	.2(0-1)	.1(0-.3)
Negative Feelings	58(54-60)	51(42-73)	39(32-42)	41(40-42)
Anxiety Rating	77(71-84)	60(40-81)	41(35-46)	36
All Subjects				
Negative Contacts	3.4(2-11)	1.1(0-3.5)	.4(0-3)	.2(0-1)
Negative Feelings	67(23-100)	55(28-87)	44(20-93)	31(7-50)
Anxiety Rating	74(43-92)	60(20-92)	46(17-95)	33(2-57)

re-reported him to DFS upon observing seven pinch-mark bruises on the subject's infant. Figure 5 shows that the spouse of Subject 5 provided an additional measure, namely, a spouse-reported number of negative physical contacts for the highest day she observed during the week. Collecting the additional spouse-reported measure on negative physical contacts for Subject 5 began following the re-reporting to DFS. The additional report was initiated (with the knowledge of Subject 5) because both the spouse and the experimenter were concerned that the questionable motivation of Subject 5 may have resulted in under-reporting negative physical contacts during baseline. Figure 5 shows an increasing relationship between self-report and spouse report as treatment progressed.

Negative Feelings
Toward Children

Self-reports of negative feelings toward children used a 100-point scale with 100 being totally negative feelings and 0 being no negative feelings. There was a general decrease in negative feelings toward children reflected in the systematic decrease in aggregate means for all subjects shown in Table 3. The aggregate means for all subjects decreased by 54% from baseline to follow-up. Subject 2 was an exception to that tendency (see Figure 8), showing an increase in negative feelings toward children in the middle of treatment and then a return to baseline level at the end. Subject 4 showed a non-systematic decrease in negative

feelings (see Figure 10). Negative feelings reported by Subject 4 decreased significantly in the first part of treatment but increased in the second part and then decreased again at the end of treatment and during follow-up. Subject 5's reports showed an unstable baseline (Figure 11), probably for the reasons discussed in the preceding section. Once Subject 5 started treatment, the decrease in negative feelings toward children was systematic.

Anxiety Rating

Self-reports of anxiety used a 100-point, Subjective-Units-of-Distress (SUDS) scale, with 100 being the most anxious that the subject had ever felt, and 0 being not anxious at all.

Figures 13-18 and Table 3 show that self-rated anxiety decreased from baseline to probe for each subject, however, the pattern of the decrease varied from subject to subject. Only Subjects 1 and 3 showed a decrease in anxiety early in the treatment phase. Other subjects reported no change or an increase in anxiety during the first part of treatment. The aggregate means for all subjects reported in Table 3 show a decrease in anxiety rating from 74 in baseline to 60 in first treatment. The aggregate means for all subjects continued to decrease systematically in the second treatment or second phase of treatment and during follow-up. The aggregate means for all subjects reported in Table 3 show a 55% decrease from baseline to follow-up.

As might be expected, there appears to be a similarity in the patterns for negative feelings toward children and anxiety rating for most subjects (i.e., Subject 4, cf. Figures 10 and 16).

Physiological Stress Data

Physiological stress profiles were generated (as described in the procedures section) as part of the assessment process and again at the end of treatment (see Figures 19-30). Results are summarized in Table 4. Additional stress profiles were generated for Subject 6 who received relaxation training (Figures 31 & 32).

The pre-post comparisons summarized in Table 4 indicate less physiological stress on posttreatment measures on 15 comparisons, more stress on 6, and no change on 3 comparisons. The majority of the changes were modest in magnitude.

Subject 6, the only subject who received relaxation training, exhibited clinically significant changes in directions indicating lower physiological stress in both skin temperature and electrodermal response. Figures 31 and 32 show the clinically significant increases (e.g., more than 20 degree Fahrenheit) in skin temperature and decreases in EDR for Subject 6. Figures 33 and 34 show the systematic increases in skin temperature and the related change in SUDS rating measured during the relaxation training sessions. The magnitude of changes in skin temperature by Subject 6

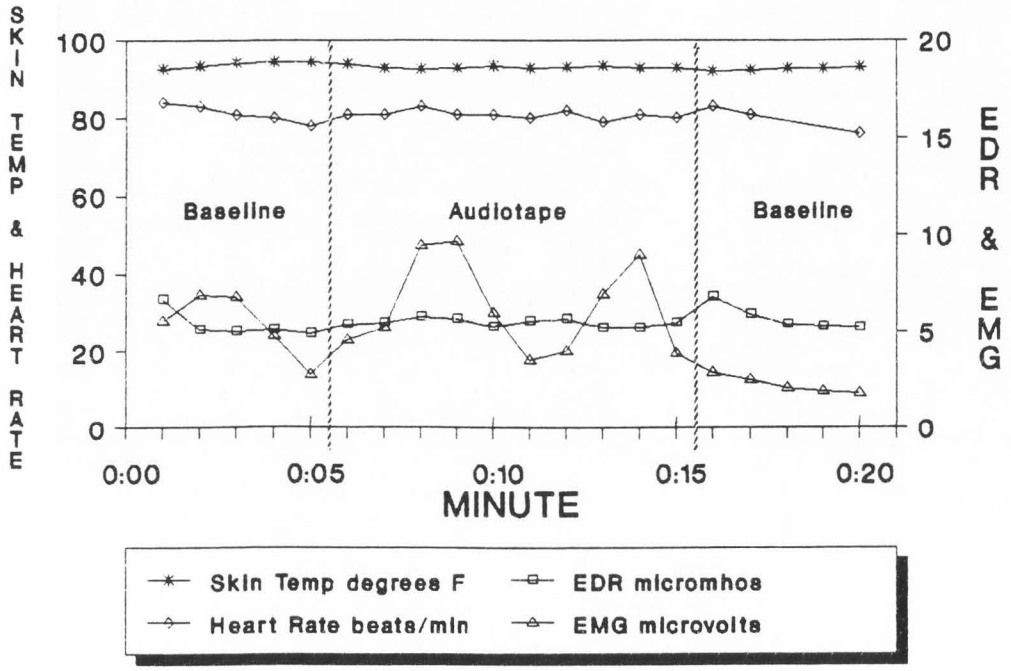

Figure 19. Pretreatment stress profile (Subject 1).

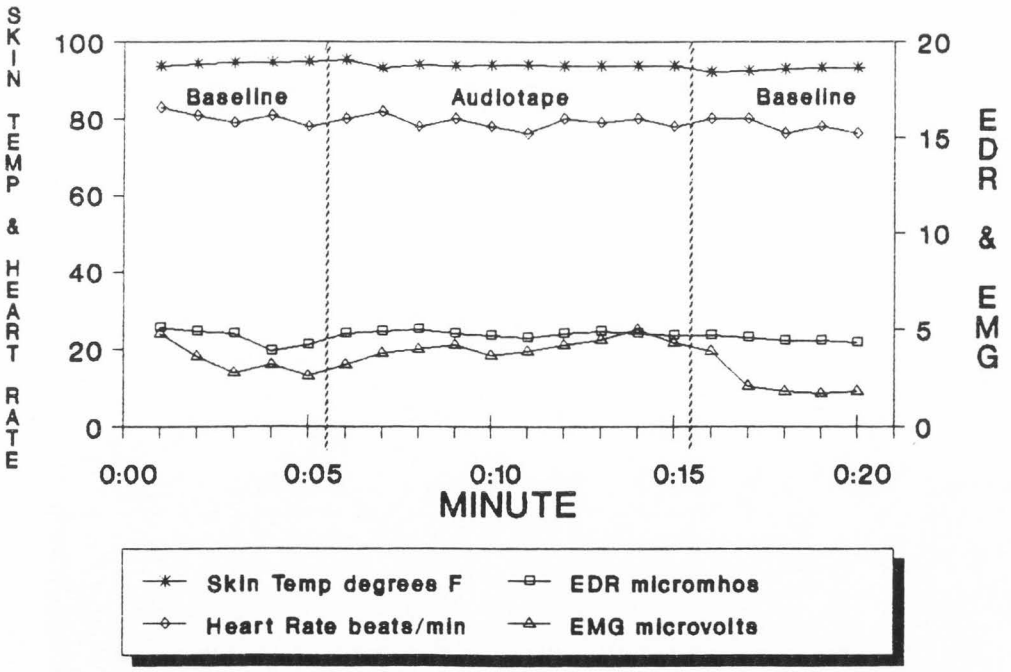

Figure 20. Posttreatment stress profile (Subject 1).

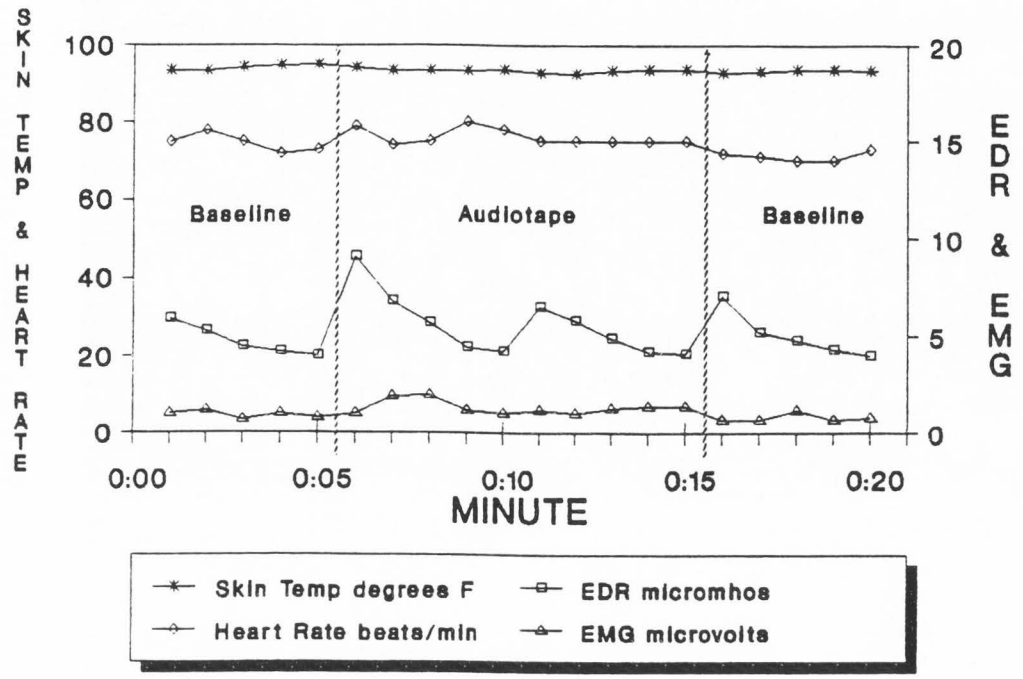

Figure 21. Pretreatment stress profile (Subject 2).

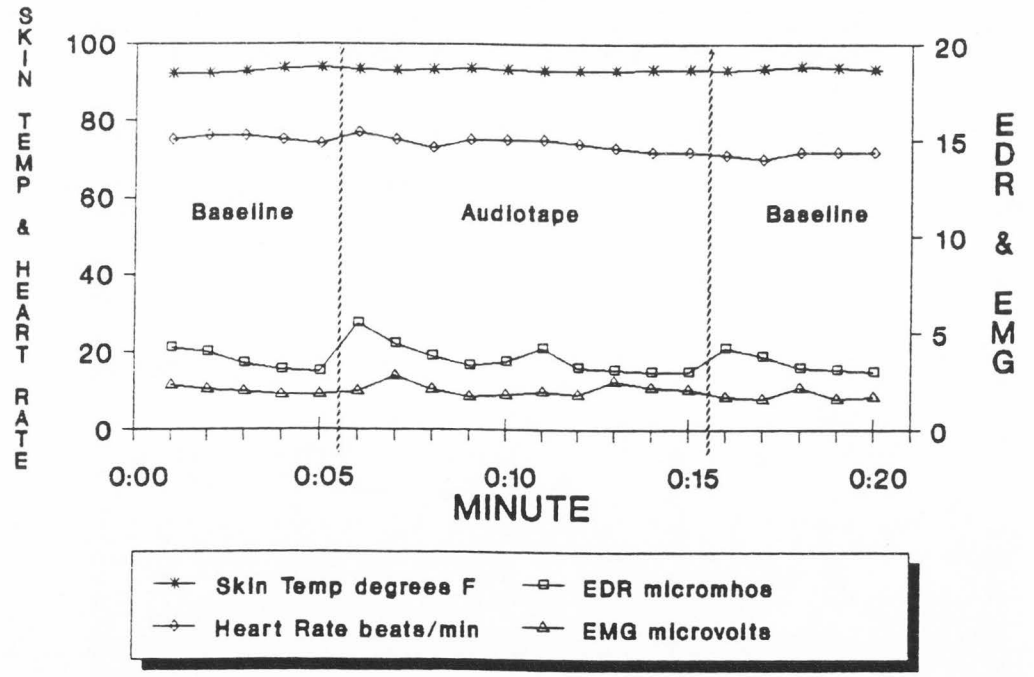

Figure 22. Posttreatment stress profile (Subject 2).

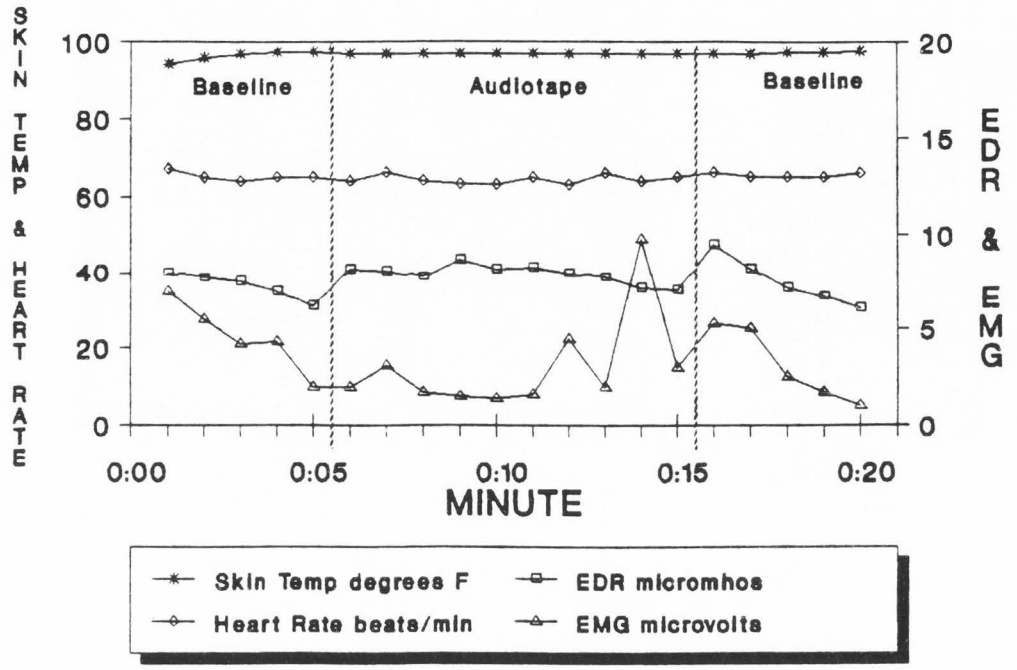

Figure 23. Pretreatment stress profile (Subject 3).

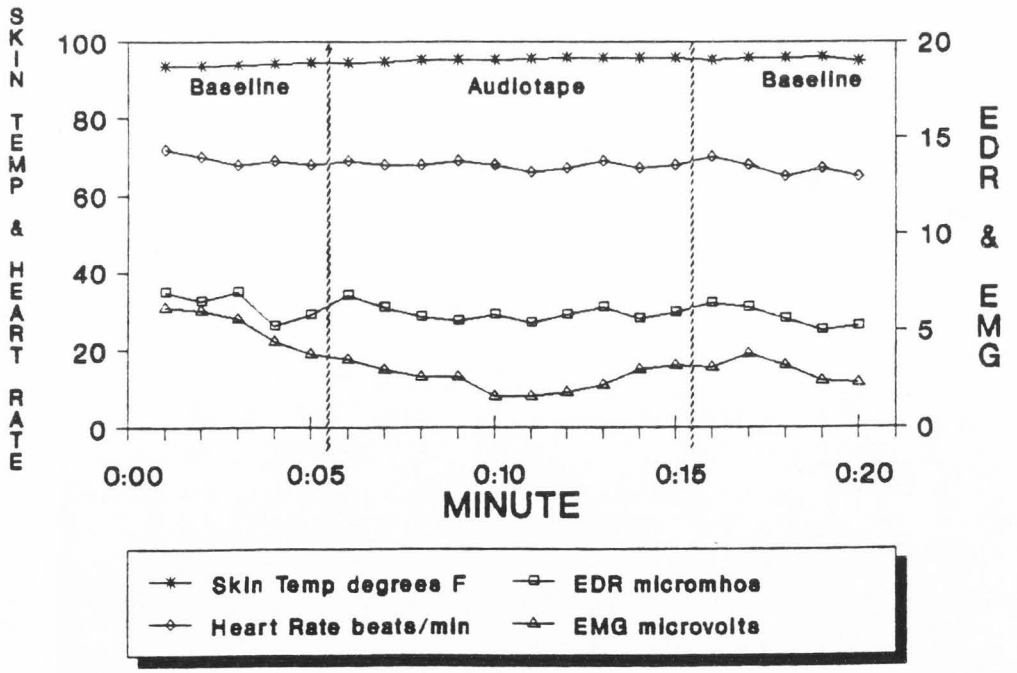

Figure 24. Posttreatment stress profile (Subject 3).

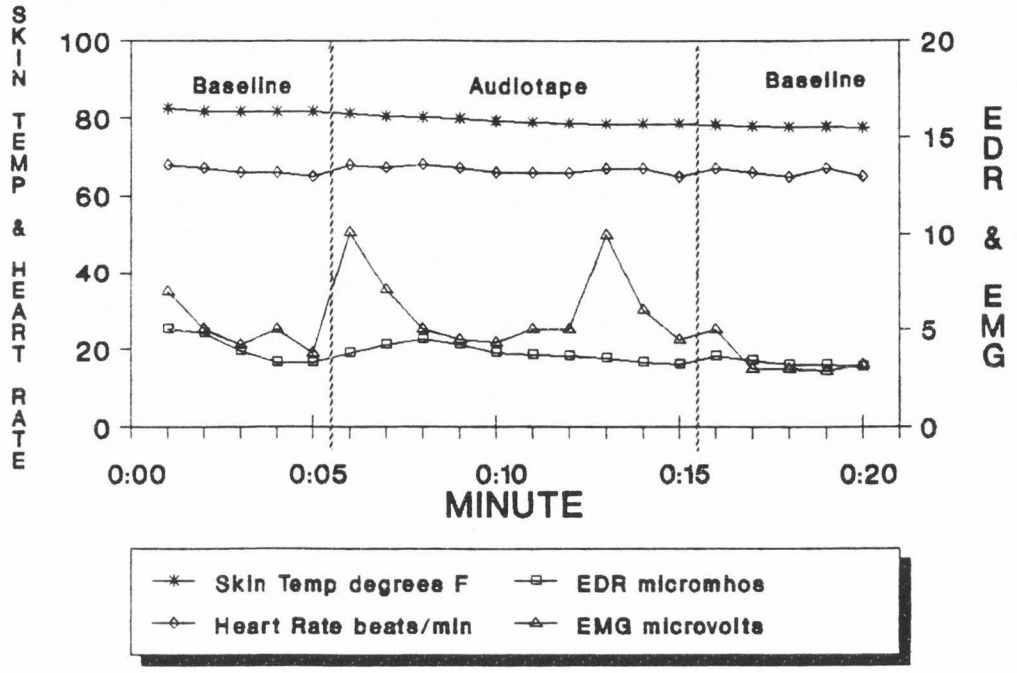

Figure 25. Pretreatment stress profile (Subject 4).

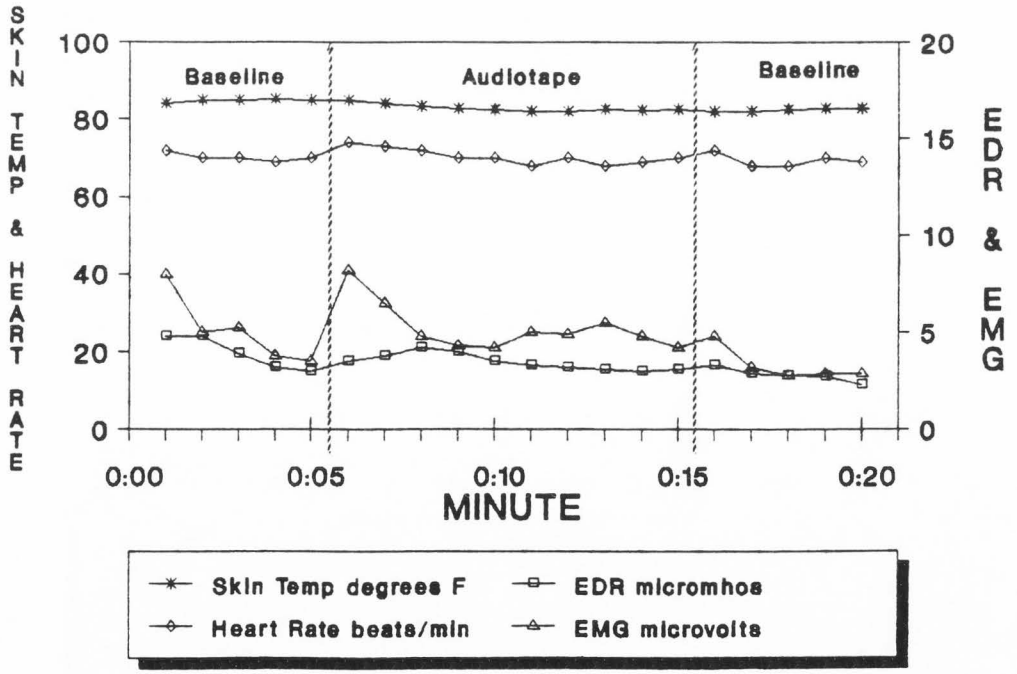

Figure 26. Posttreatment stress profile (Subject 4).

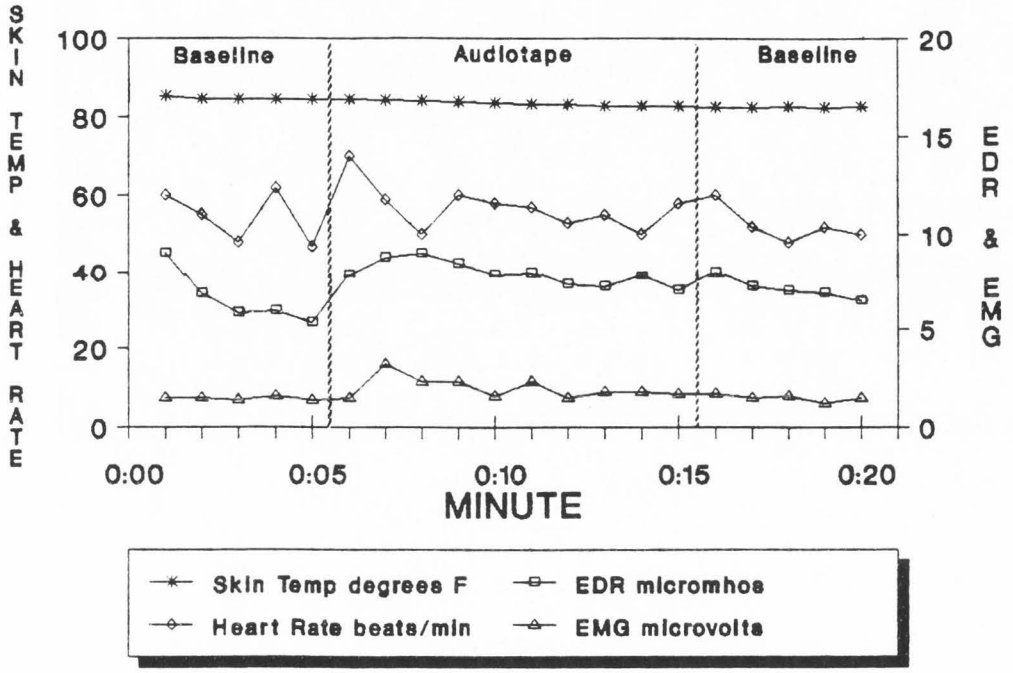

Figure 27. Pretreatment stress profile (Subject 5).

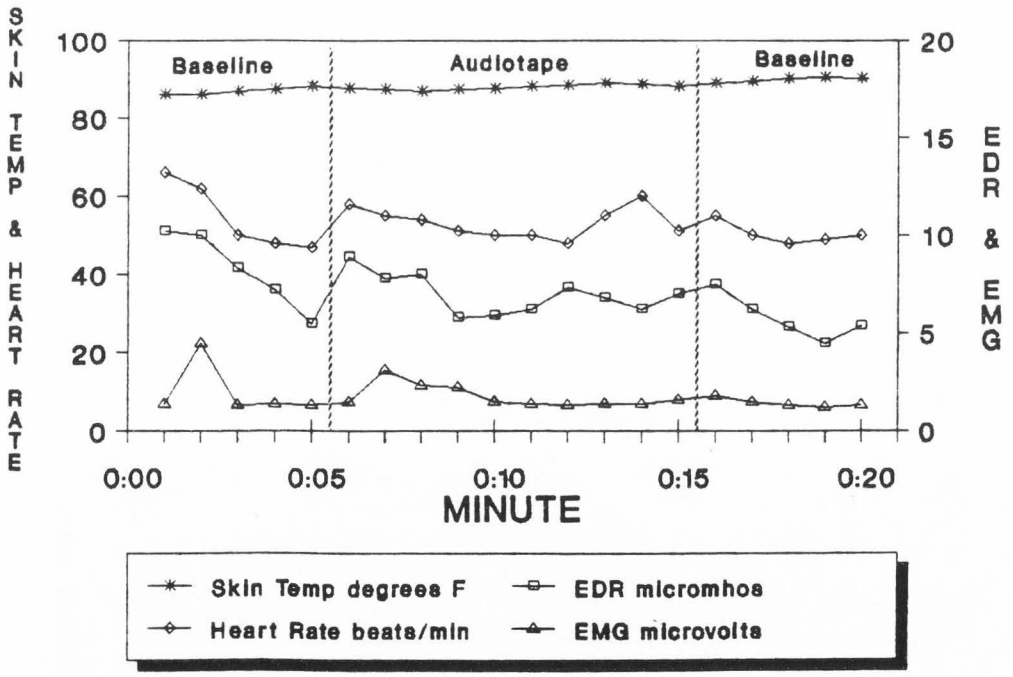

Figure 28. Posttreatment stress profile (Subject 5).

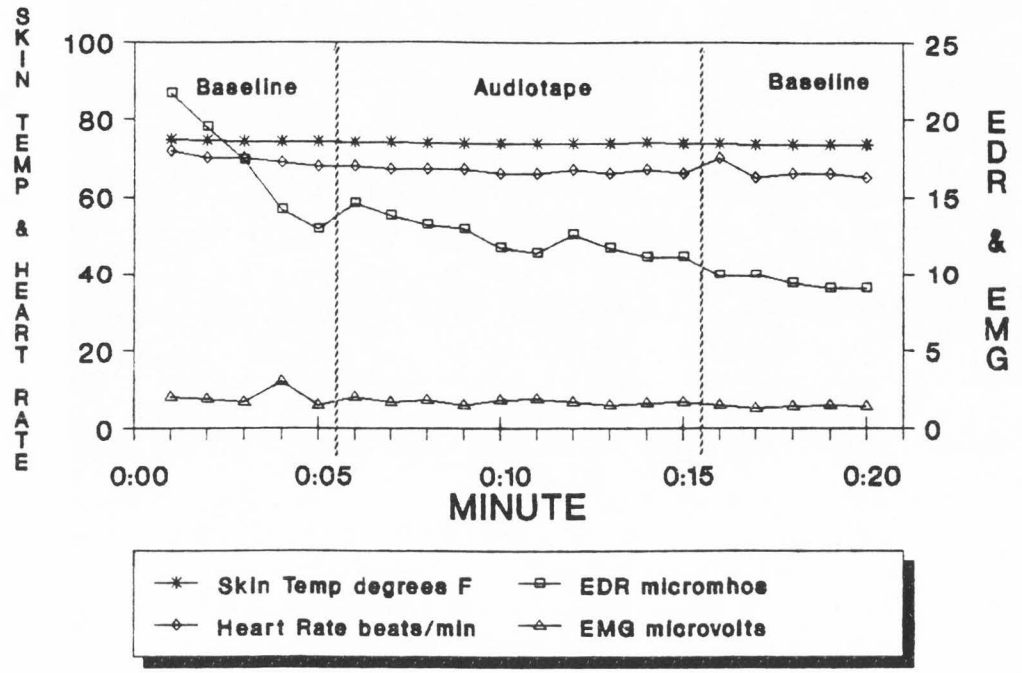

Figure 29. Pretreatment stress profile (Subject 6).

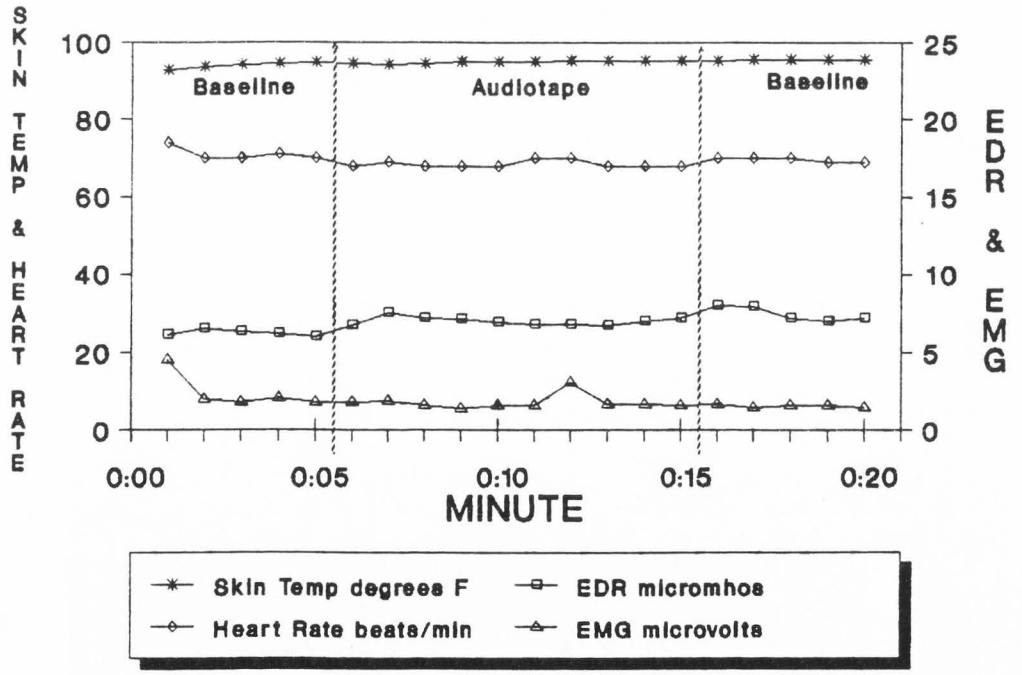

Figure 30. Posttreatment stress profile (Subject 6).

Table 4

Means of Pre- and Posttreatment Physiological Measures Across Conditions for All Subjects

	Baseline	Audiotape	Baseline
Subject 1			
EDR[a] pre	5.1	5.5	5.8
EDR post	4.4	4.8	4.5
Skin Temp[b] pre	93.9	93.2	92.7
Skin Temp post	94.4	94.2	92.7
EMG[c] pre	5.9	6.6	2.3
EMG post	3.4	4	2.5
Heart Rate[d] pre	81.5	81.6	79.5
Heart Rate post	81	79.2	77
Subject 2			
EDR pre	4.8	5.8	5.3
EDR post	3.5	3.8	3.5
Skin Temp pre	94.2	93.5	93.4
Skin Temp post	93.1	93.3	93.5
EMG pre	1.1	1.3	.9
EMG post	2	2	1.9
Heart Rate pre	75	76.4	71.7
Heart Rate post	75.5	74.2	71.7
Subject 3			
EDR pre	7.4	7.9	7.6
EDR post	5.9	5.9	5.7
Skin Temp pre	96.5	96.9	97.4
Skin Temp post	94	95.4	95.4
EMG pre	4.9	3.9	2.9
EMG post	5.2	2.5	2.9
Heart Rate pre	65	63.6	65.7
Heart Rate post	69.5	67.8	66.7

Table Continues

	Baseline	Audiotape	Baseline
Subject 4			
EDR pre	4.1	3.8	3.3
EDR post	4	3.5	2.8
Skin Temp pre	81.7	79.6	77.9
Skin Temp post	85.1	83	82.5
EMG pre	5	6.1	3.7
EMG post	4.4	5.4	3.5
Heart Rate pre	66.5	67	65.7
Heart Rate post	69.5	71	70
Subject 5			
EDR pre(tx)	6.9	8	7.2
EDR post(tx)	8.6	7.3	6.1
Skin Temp pre	84.5	83.5	82.6
Skin Temp post	86.7	87.9	89.9
EMG pre	1.5	1.7	1.6
EMG post	3	1.6	1.5
Heart Rate pre	58.5	56.2	53
Heart Rate post	55	54	51
Subject 6			
EDR pre	16.8	12.6	9.4
EDR post	6.4	6.9	7.5
Skin Temp pre	74.4	73.9	73.6
Skin Temp post	94.1	95	95.4
EMG pre	2.5	1.8	1.4
EMG post	2.1	2	1.6
Heart Rate pre	69.5	67	67
Heart Rate post	70.5	68.4	69.7

Table Continues

	Baseline	Audiotape	Baseline
All Subjects			
EDR pre	7.5	7.3	6.4
EDR post	5.5	5.4	5
Skin Temp pre	87.5	86.7	86.3
Skin Temp post	91.2	91.5	91.6
EMG pre	3.5	3.6	2.1
EMG post	3.3	2.9	2.3
Heart Rate pre	69.3	68.6	67.1
Heart Rate post	70.2	69.1	67.7

[a]EDR is measured in micromhos.

[b]Skin temperature is measured in degrees Fahrenheit.

[c]EMG is measured in microvolts.

[d]Heart rate is measured in beats per minute.

were more than triple the changes made by subjects who did not receive relaxation training.

All subjects showed some physiological stress reaction to the stress audiotape (see Table 4 and Figures 19-30) on the pretest measures. Those reactions moderated or disappeared on the posttest measures.

Positive Statements

Positive parental statements to children were measured by self-report, coded audiotape, and coded observation. Figures 35-40 graph both positive and negative statements

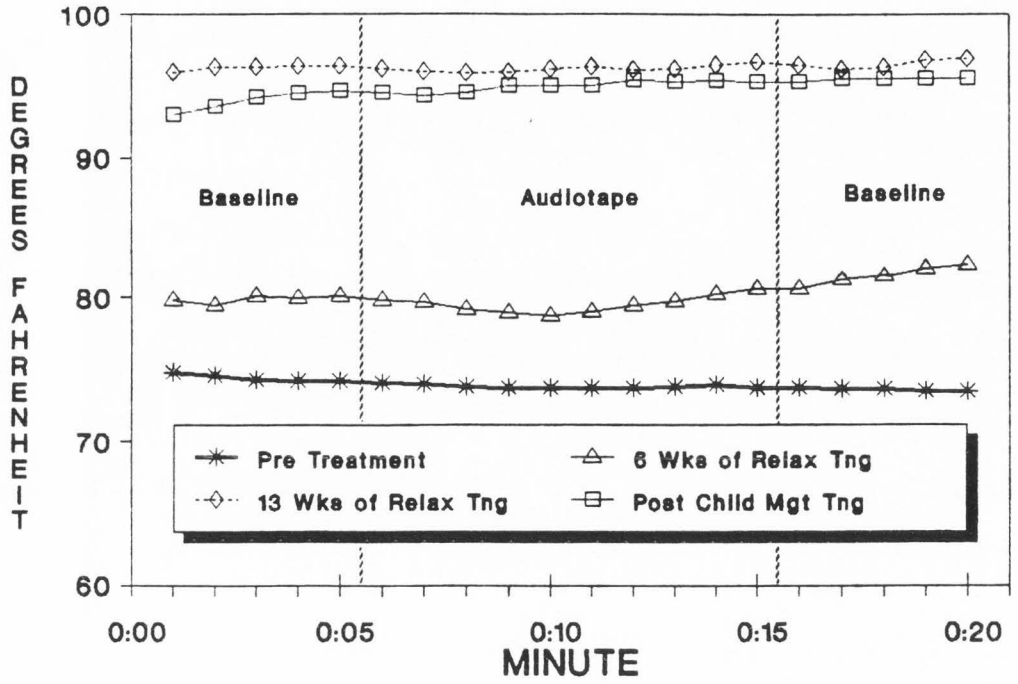

Figure 31. Skin temperature recorded during stress profiles (Subject 6).

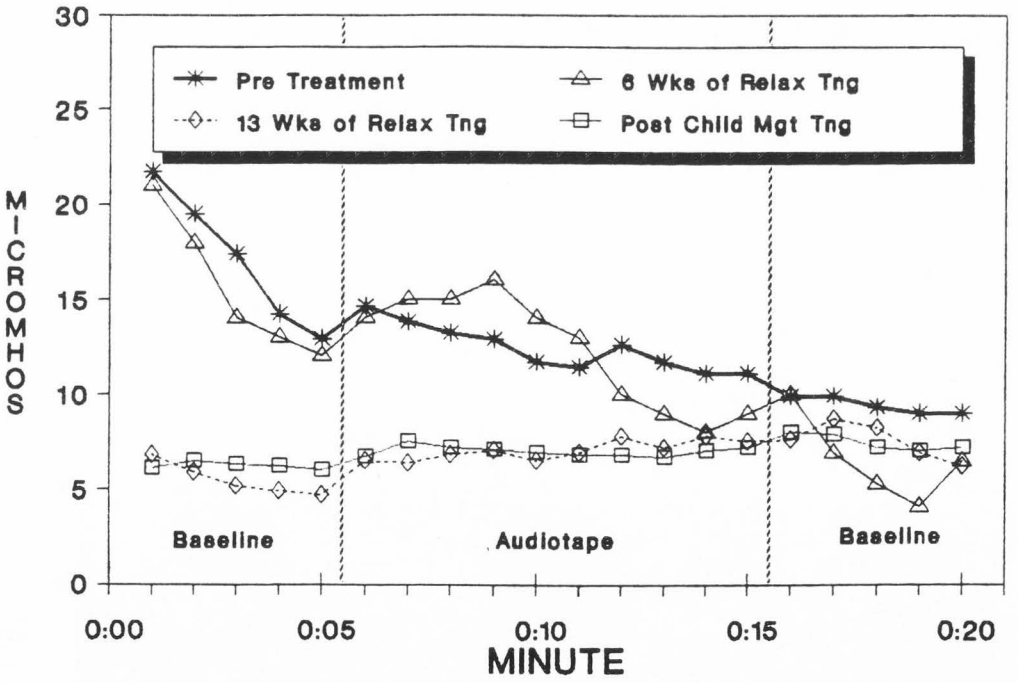

Figure 32. Electrodermal response recorded during stress profiles (Subject 6).

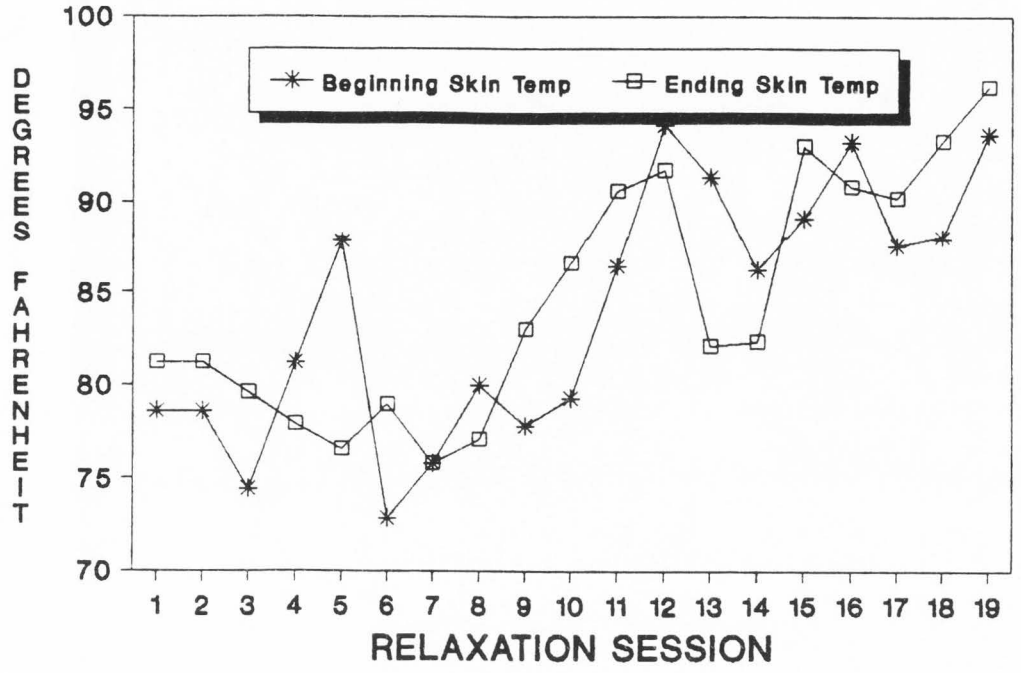

Figure 33. Skin temperature at the beginning and ending of each relaxation training session (Subject 6).

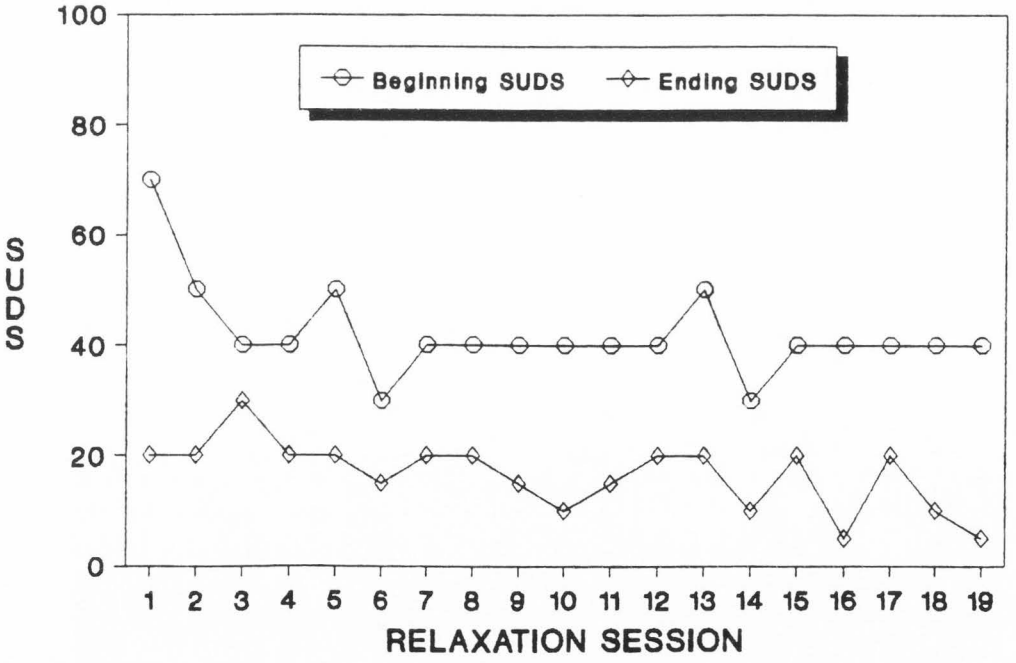

Figure 34. Self-rated anxiety level at the beginning and ending of each relaxation training session (Subject 6).

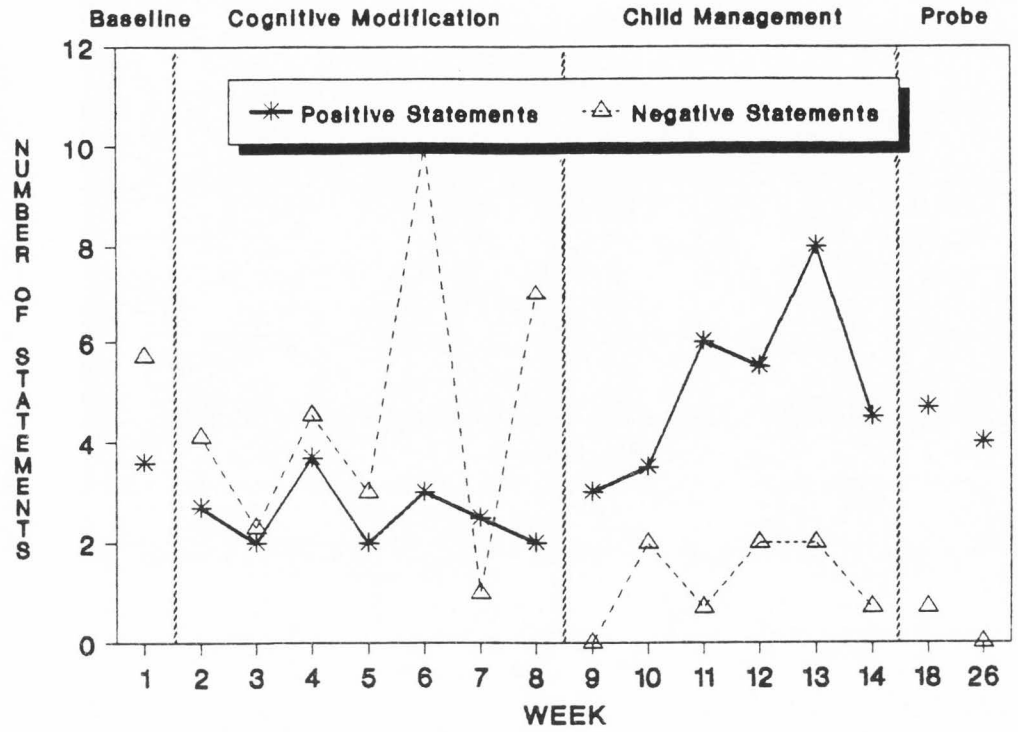

Figure 35. Mean daily frequency of self-reported positive and negative statements across weeks of treatment conditions (Subject 1).

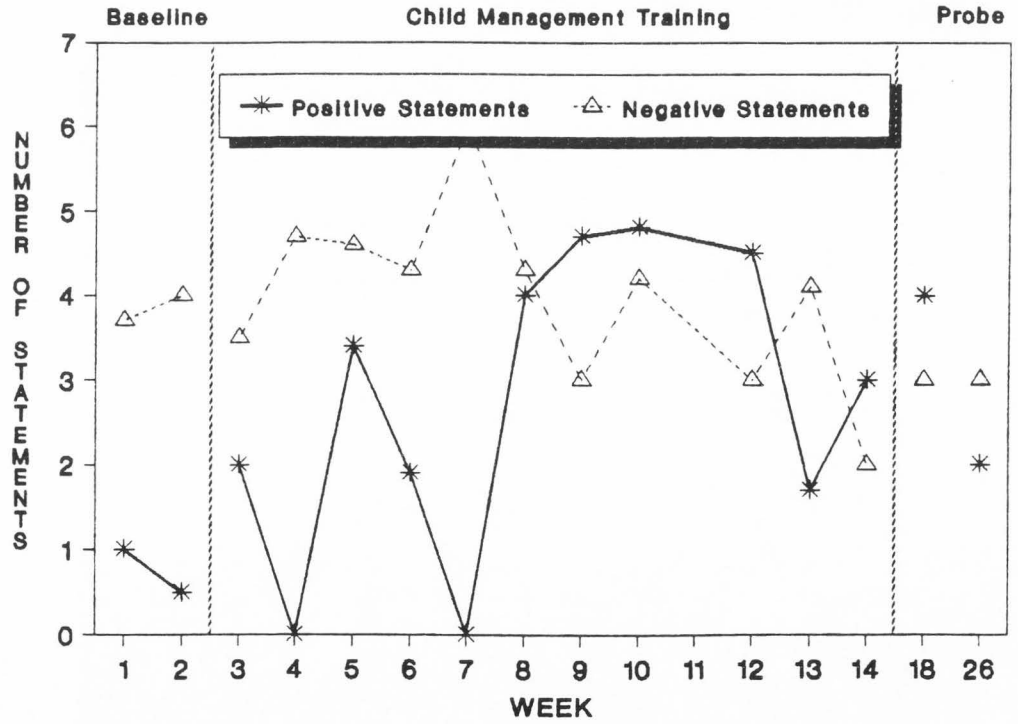

Figure 36. Mean daily frequency of self-reported positive and negative statements across weeks of treatment conditions (Subject 2).

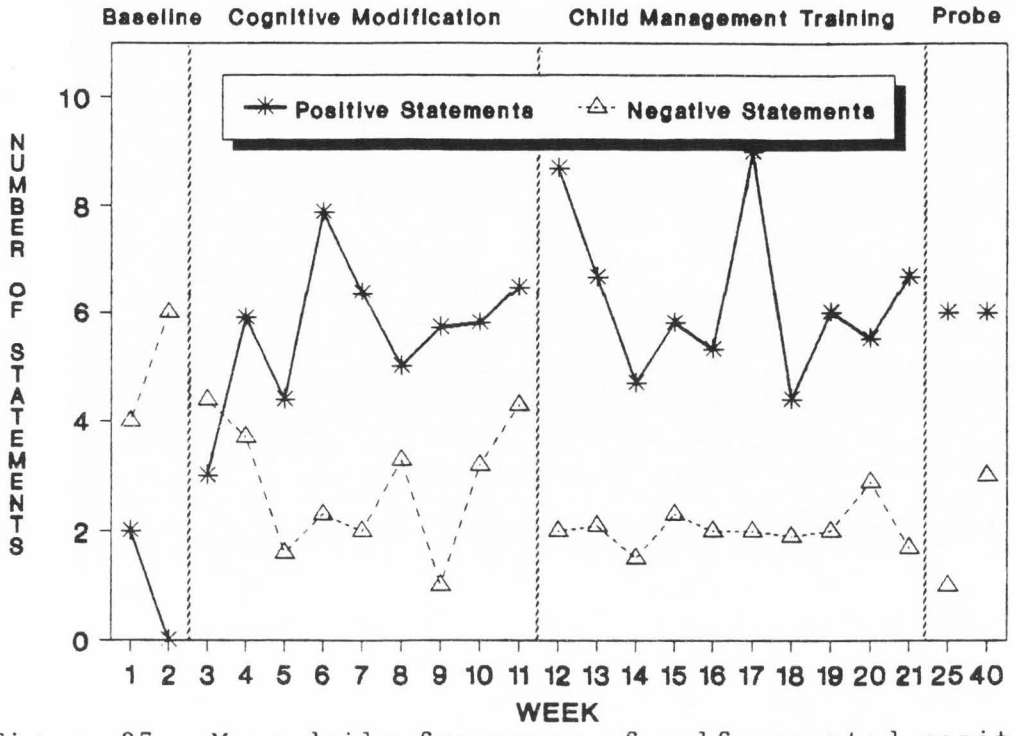

Figure 37. Mean daily frequency of self-reported positive and negative statements across weeks of treatment conditions (Subject 3).

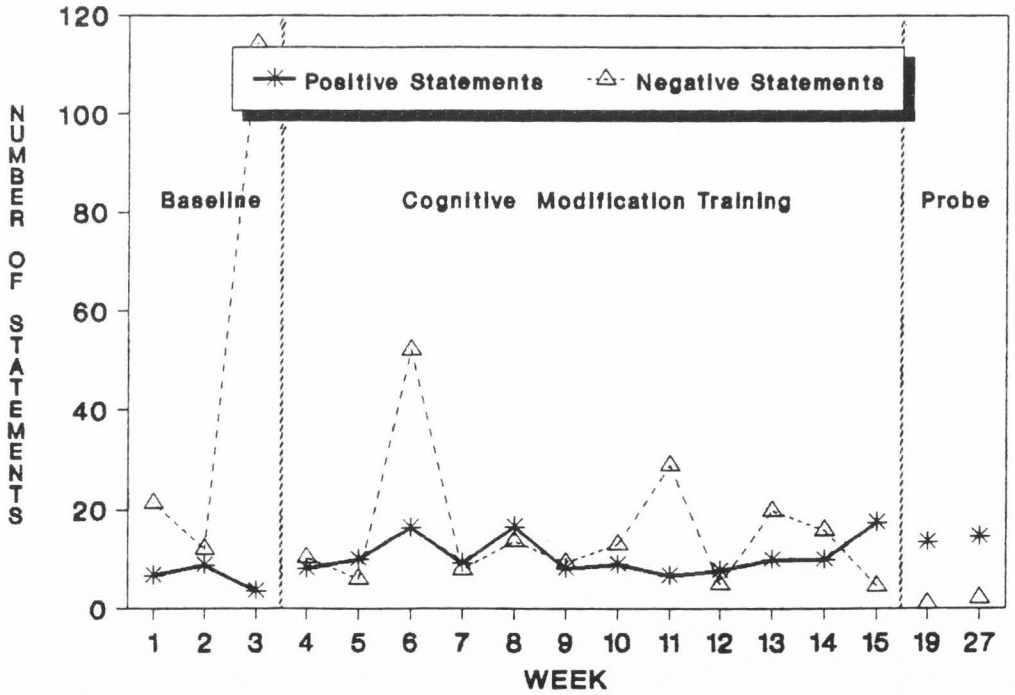

Figure 38. Mean daily frequency of self-reported positive and negative statements across weeks of treatment conditions (Subject 4).

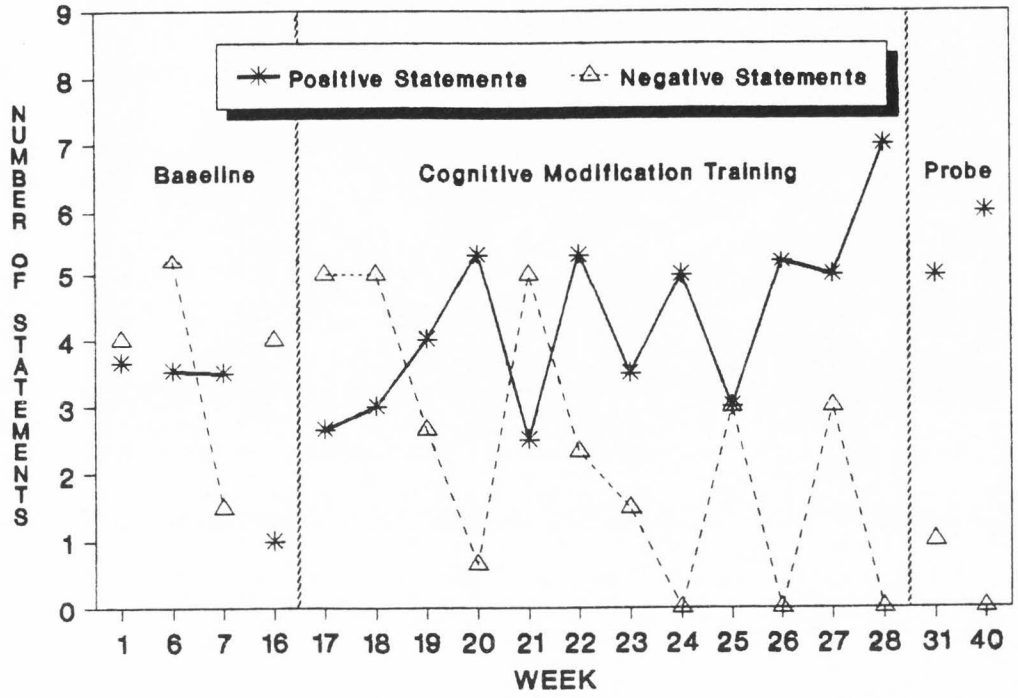

Figure 39. Mean daily frequency of self-reported positive and negative statements across weeks of treatment conditions (Subject 5).

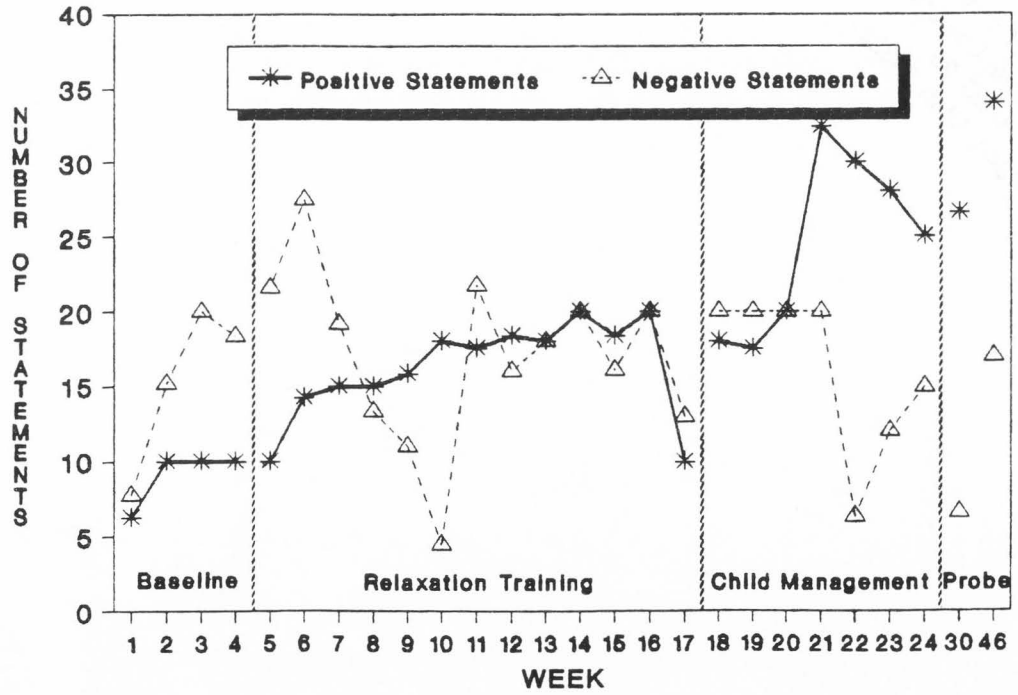

Figure 40. Mean daily frequency of self-reported positive and negative statements across weeks of treatment conditions (Subject 6).

per day by self-report. Figures 41-46 graph positive and negative statements per 30 minutes by coded audiotapes. Figures 47-52 graph positive and negative statements per 30 minutes by coded observation. Table 5 summarizes data on positive statements from all applicable dependent measures. When comparing results from different measures, remember that self-reports covered a 24-hour period while coded audiotapes and observations covered 30-minute periods.

Figures 35-40 and Table 5 show that positive statements measured by self-report increased from baseline to follow-up for every subject. All subjects increased their frequency of self-reported positive statements in each treatment with the exception of Subject 1, who reported a decrease in positive statements during cognitive therapy. The aggregate means for all subjects on Table 5 show a systematic increase from baseline in each condition with the mean for follow-up showing a 182% increase from baseline.

Positive statements measured by coded audiotapes (see Figures 41-46 and Table 5) increased in both the first and second treatment phases for Subjects 1, 3, and 5. Subject 2 decreased slightly during cognitive modification training and then increased to 760% of the baseline frequency of positive statements during child management training (see Table 5). Subject 4, who received cognitive modification training, showed an increase (double the baseline mean on Table 5) in the first phase of treatment and then returned

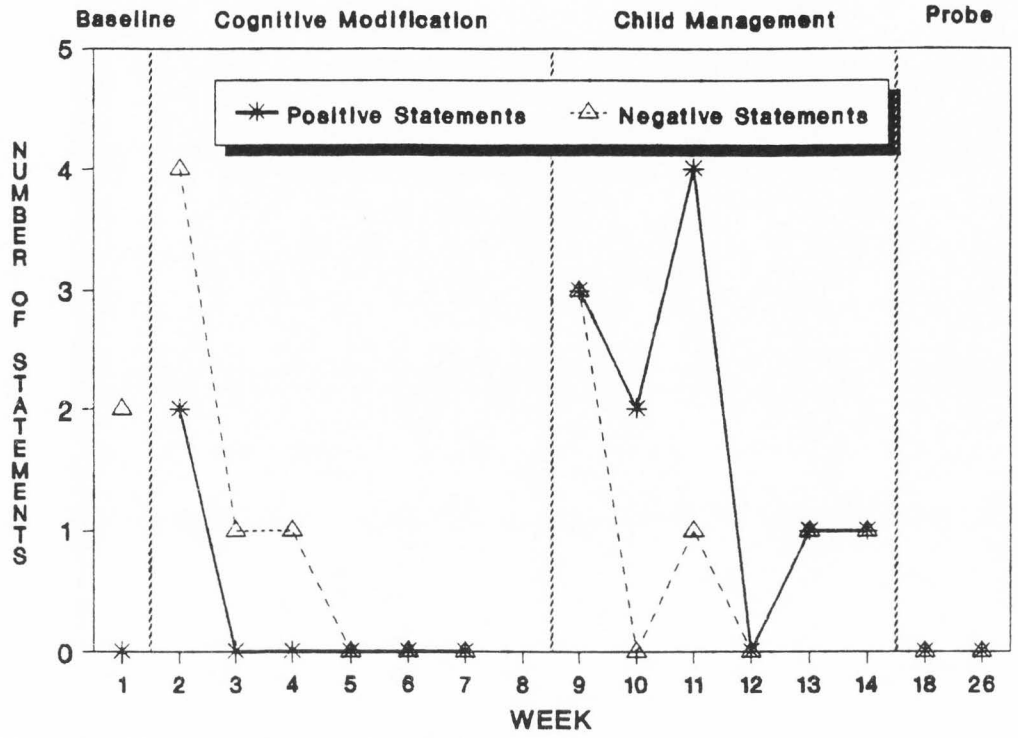

Figure 41. Number of positive and negative statements coded per 30-minute audiotape (Subject 1).

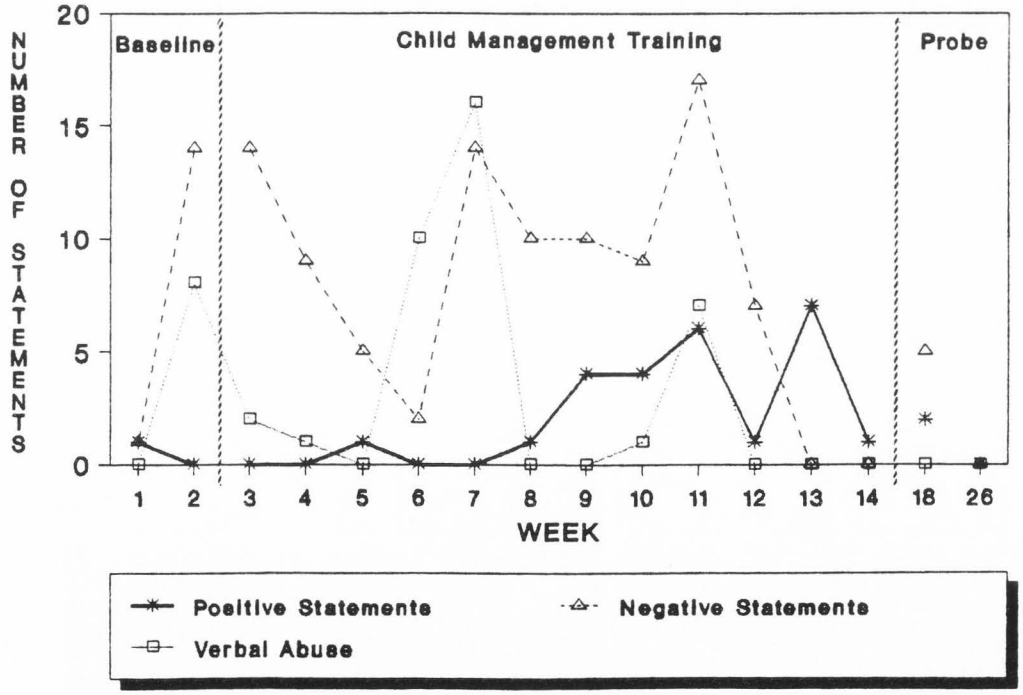

Figure 42. Number of positive and negative statements coded per 30-minute audiotape (Subject 2).

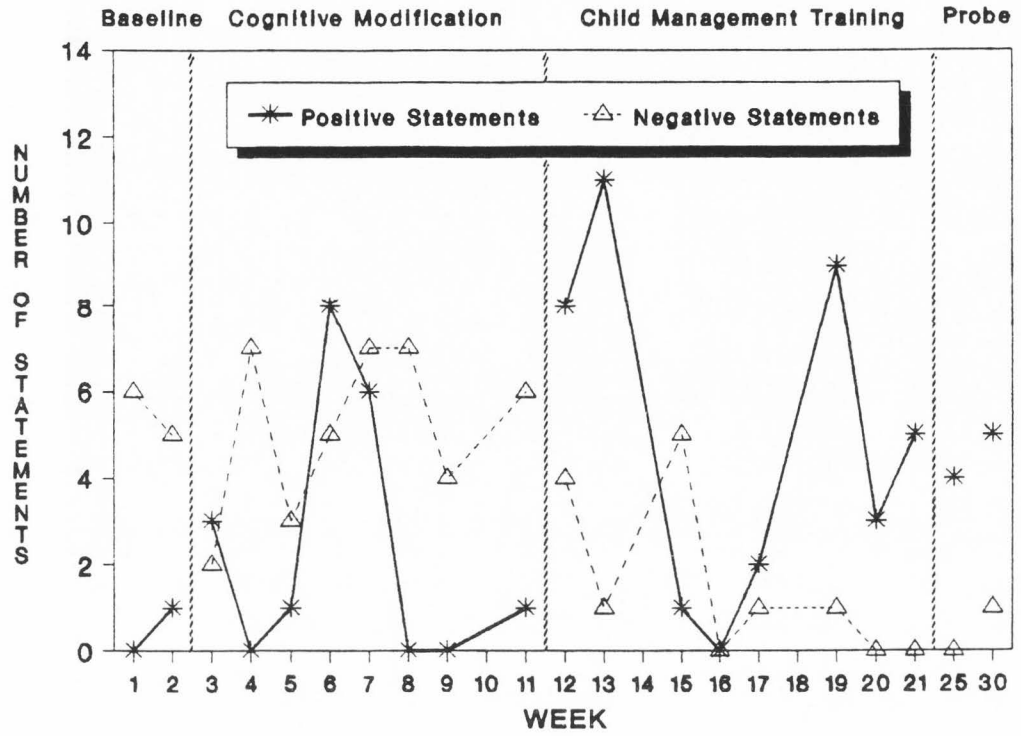

Figure 43. Number of positive and negative statements coded per 30-minute audiotape (Subject 3).

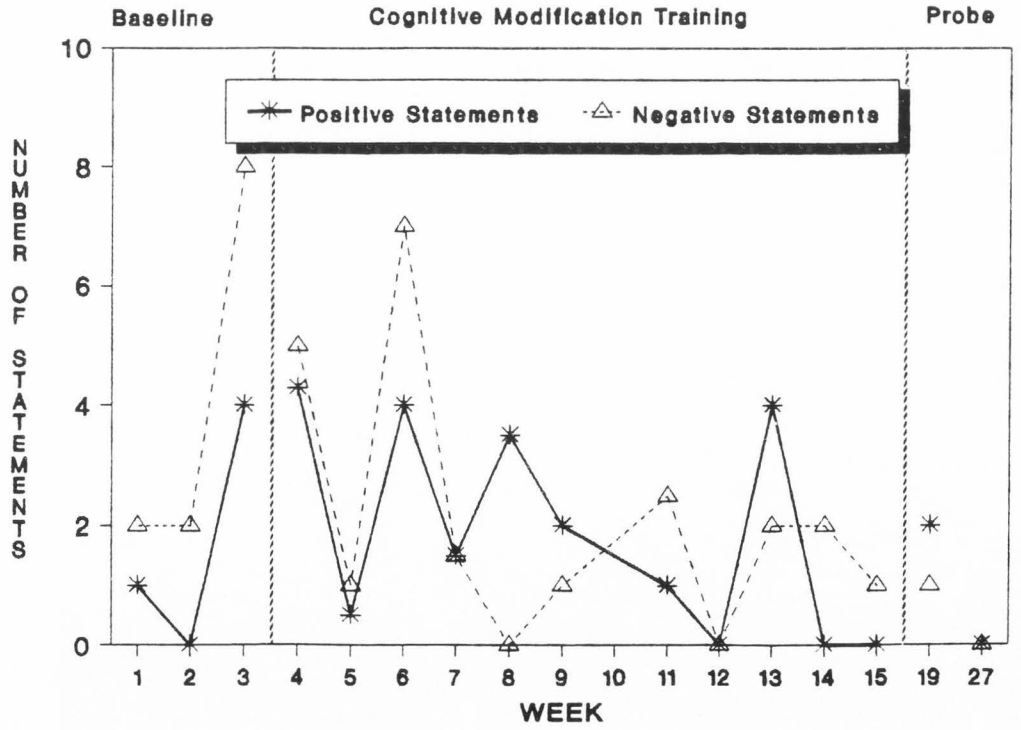

Figure 44. Number of positive and negative statements coded per 30-minute audiotape (Subject 4).

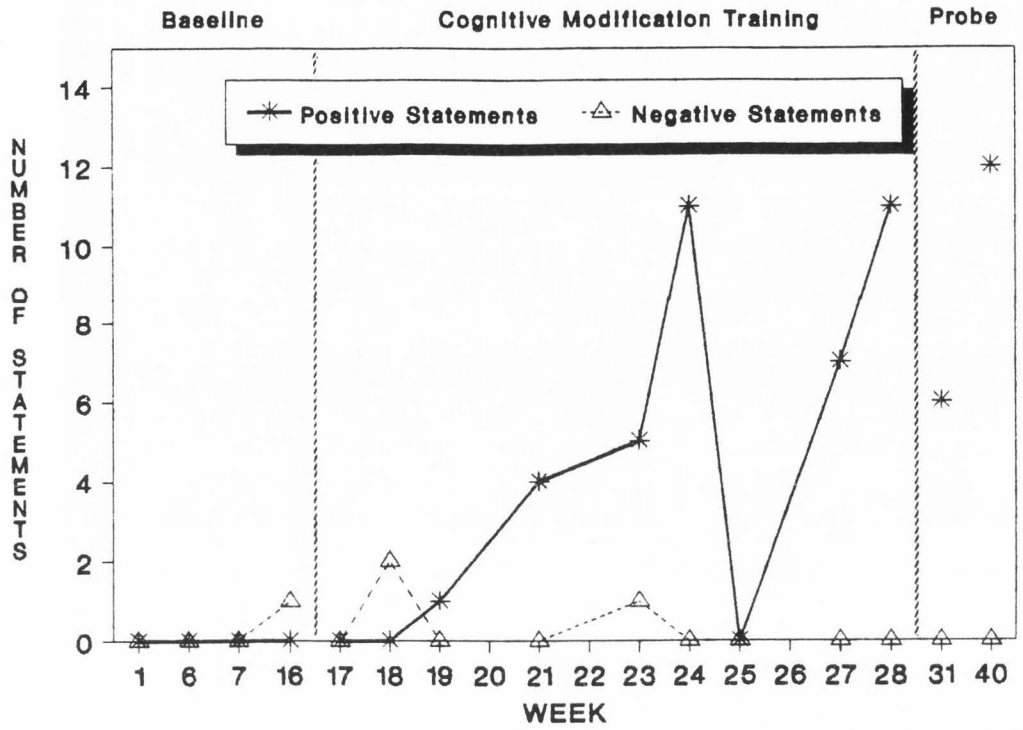

Figure 45. Number of positive and negative statements coded per 30-minute audiotape (Subject 5).

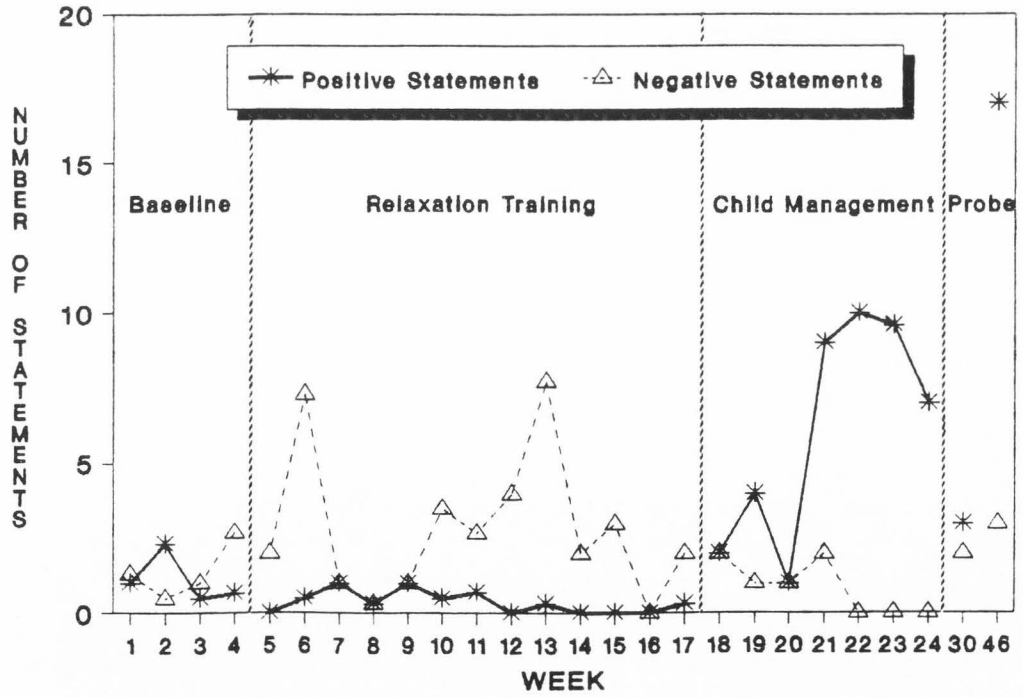

Figure 46. Number of positive and negative statements coded per 30-minute audiotape (Subject 6).

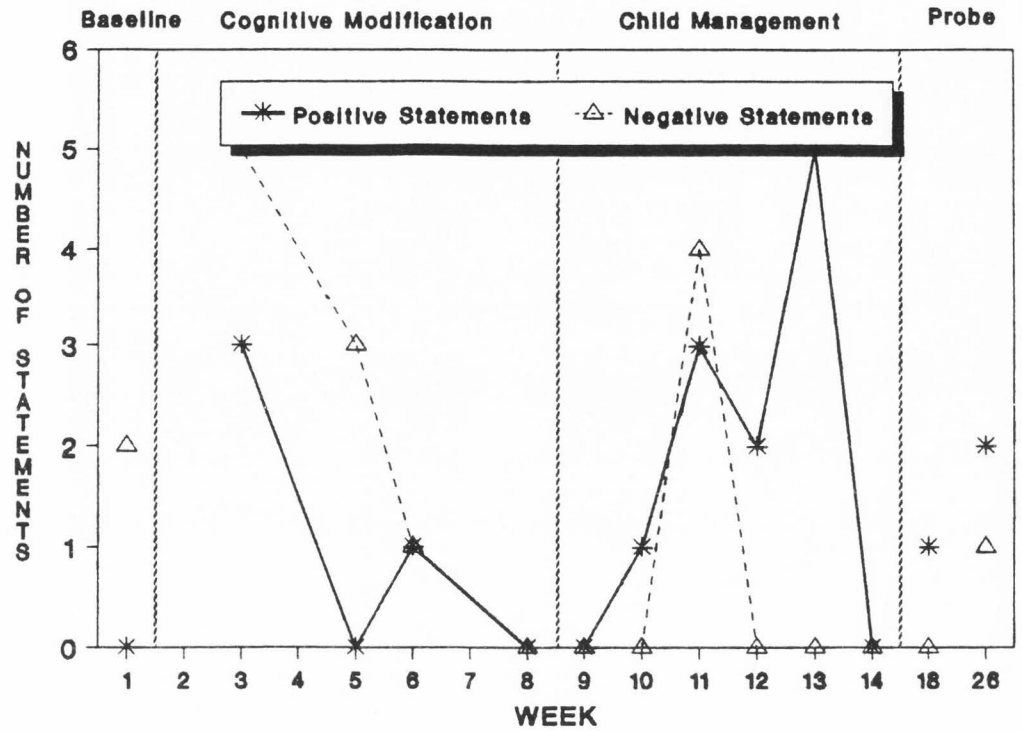

Figure 47. Number of positive and negative statements coded per 30-minute observation (Subject 1).

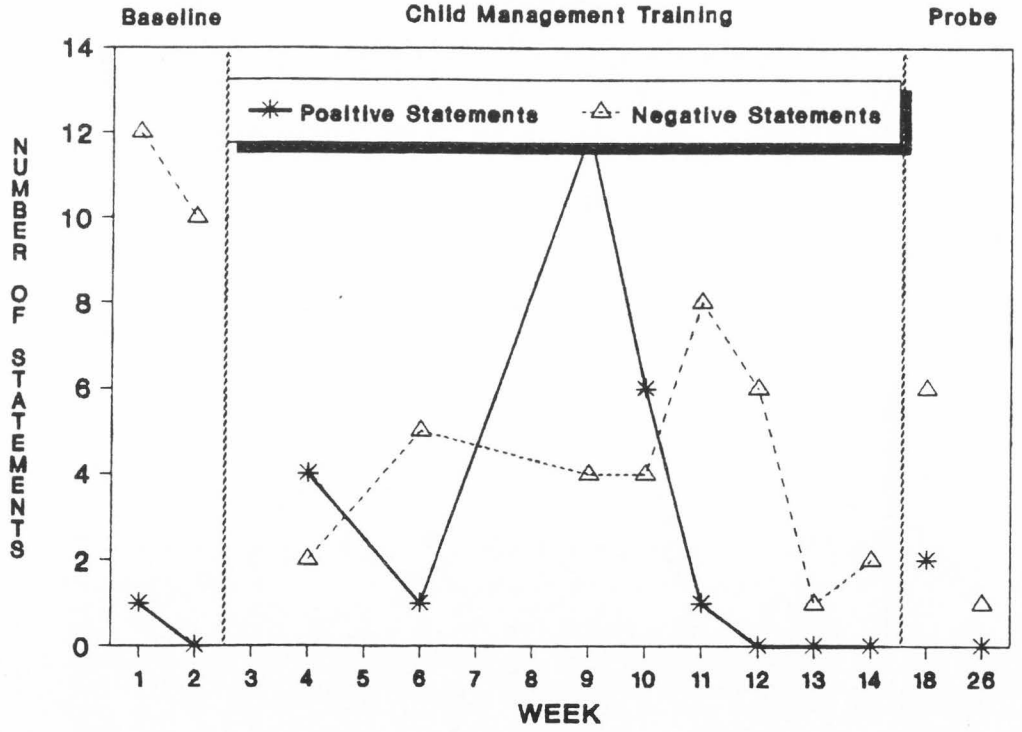

Figure 48. Number of positive and negative statements coded per 30-minute observation (Subject 2).

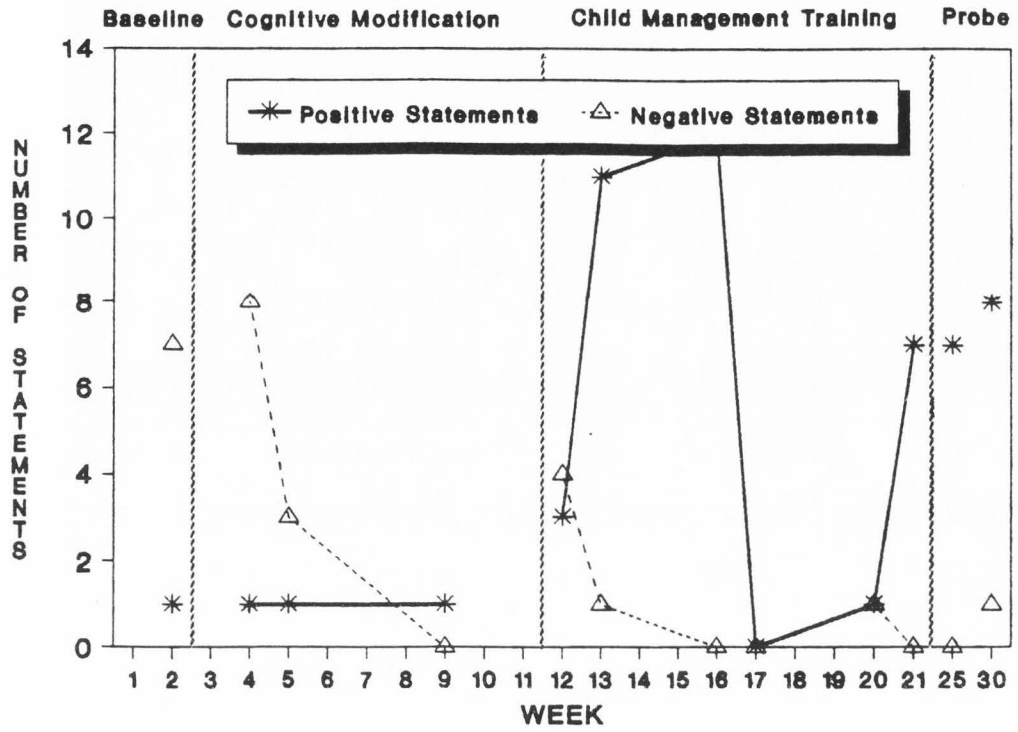

Figure 49. Number of positive and negative statements coded per 30-minute observation (Subject 3).

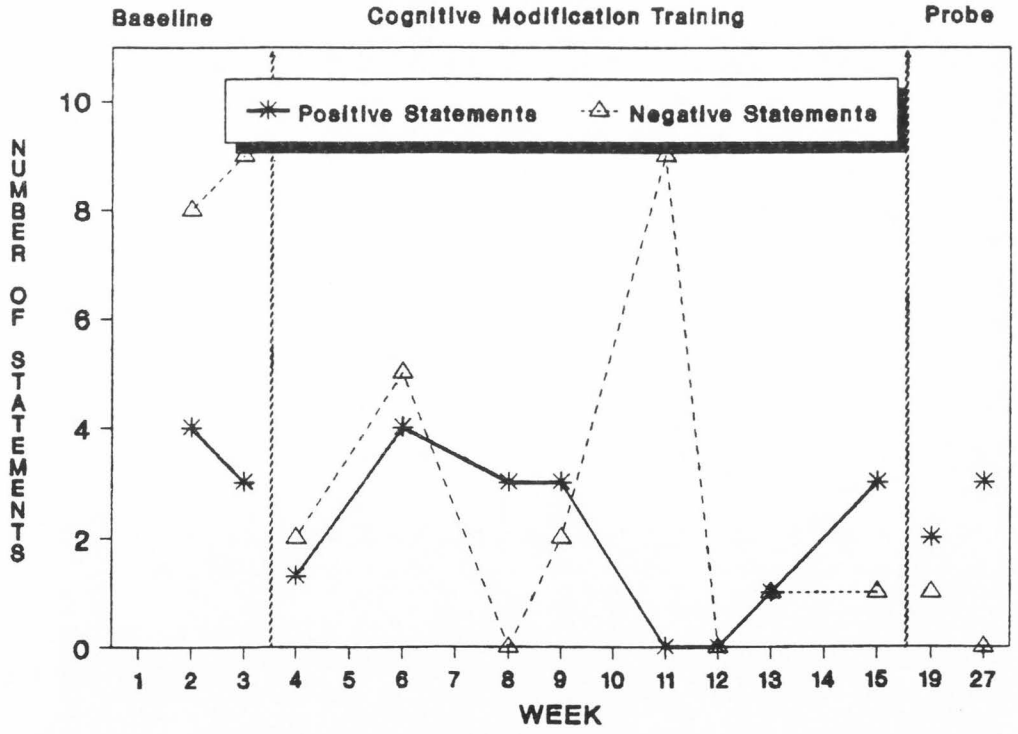

Figure 50. Number of positive and negative statements coded per 30-minute observation (Subject 4).

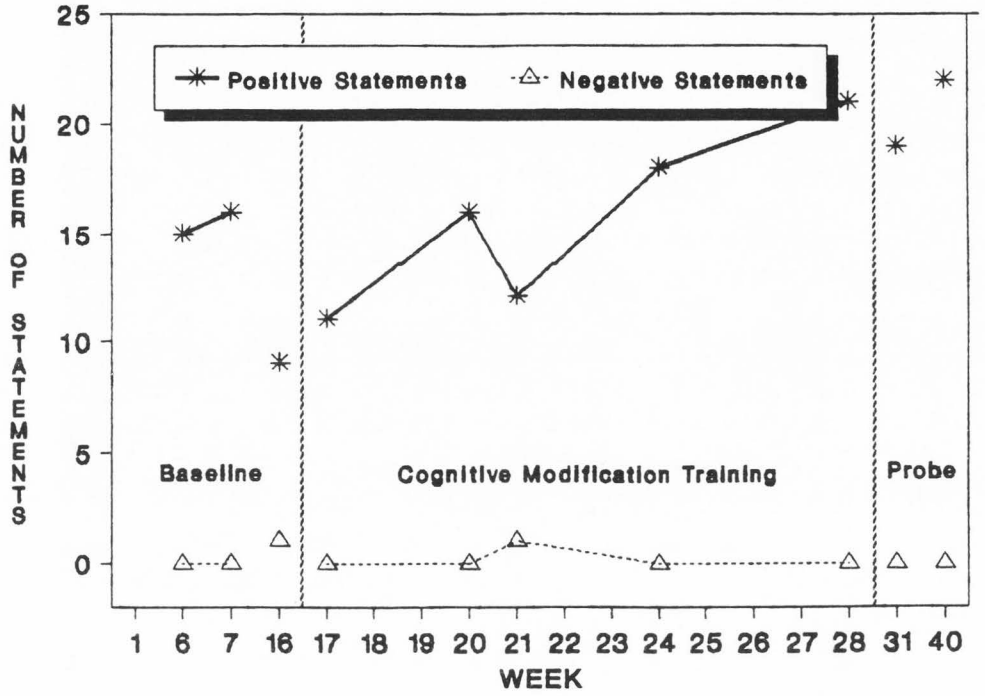

Figure 51. Number of positive and negative statements coded per 30-minute observation (Subject 5).

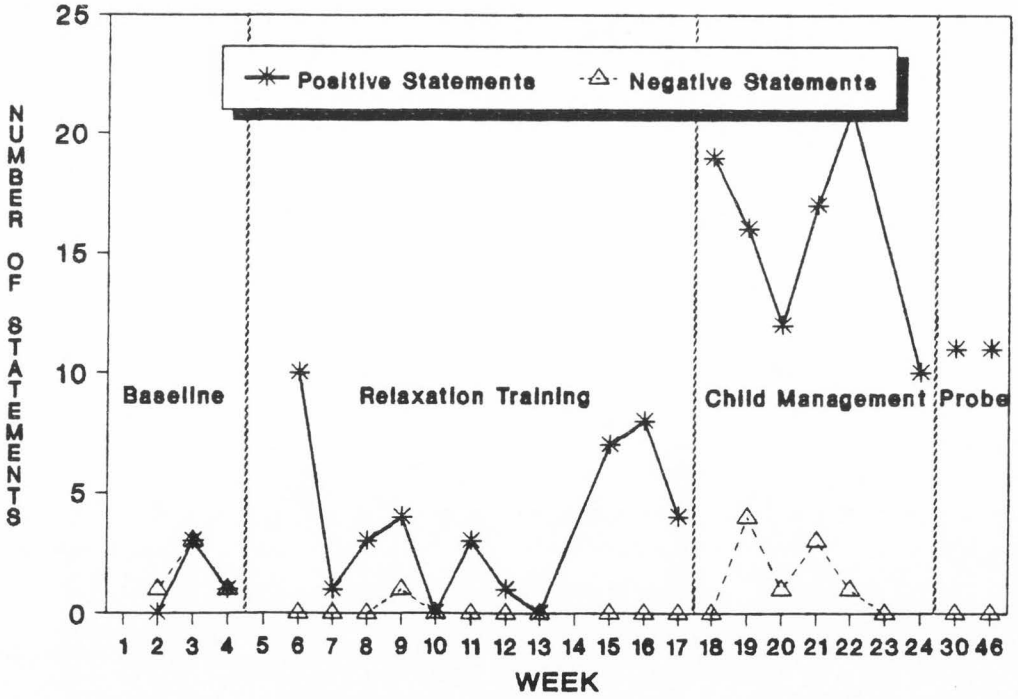

Figure 52. Number of positive and negative statements coded per 30-minute observation (Subject 6).

Table 5

Means and Ranges of Frequencies of Positive Statements by Self-Report, Coded Audiotape, and Coded Observation

Positive Statements by:	Baseline	Treatment 1st Phase	Treatment 2nd Phase	Probe
Subject 1		Cognitive	Child Mgt.	
Self Report/day	3.6	2.5(2-3.7)	5.1(3-8)	4.3(4-5)
Tape/30 min	0	.3(0-2)	1.7(0-4)	0
Observe/30 min	0	1(0-3)	1.8(0-5)	1.5(1-2)
Subject 2		Child Mgt	Child Mgt	
Self Report/day	.8(.5-1)	1.9(0-3.4)	3.7(2-5)	3(2-4)
Tape/30 min	.5(0-1)	.3(0-1)	3.8(1-7)	1(0-2)
Observe/30 min	.5(0-1)	2.5(1-4)	3.2(0-12)	1(0-2)
Subject 3		Cognitive	Child Mgt	
Self Report/day	1(0-2)	5.6(3-7.9)	6.3(4.4-9)	8
Tape/30 min	.5(0-1)	2.4(0-8)	4.9(0-11)	4.5(4-5)
Observe/30 min	1	1	5.7(0-12)	7.5(7-8)
Subject 4		Cognitive	Cognitive	
Self Report/day	6.3(3-9)	11.4(8-17)	10.2(7-18)	15(14-15)
Tape/30 min	1.7(0-4)	2.6(.5-4.3)	1(0-4)	1(0-2)
Observe/30 min	3.5(3-4)	2.8(1.3-4)	1(0-3)	2.5(2-3)
Subject 5		Cognitive	Cognitive	
Self Report/day	2.9(1-4)	3.8(2-5.3)	4.8(3-7)	5.5(5-6)
Tape/30 min	0	1.3(0-4)	6.8(0-11)	9(6-12)
Observe/30 min	13(9-16)	13(11-16)	20(18-21)	21(19-22)
Subject 6		Relaxation	Child Mgt	
Self Report/day	9(6.3-10)	16.2(10-20)	25(18-22)	31(27-34)
Tape/30 min	1.1(.5-2)	.4(0-1)	6.1(1-10)	10(3-17)
Observe/30 min	1.3(0-3)	3.7(0-10)	16(10-21)	11
All Subjects				
Self Report/day	3.9(0-10)	6.9(0-20)	9.2(2-22)	11(2-34)
Tape/30 min	.6(0-4)	1.2(0-8)	4.1(0-11)	4.3(0-17)
Observe/30 min	3.2(0-16)	4(0-16)	8.0(0-21)	7.4(0-22)

to just below baseline during the second phase. Subject 6 showed a decrease in the rate of positive statements on this measure in relaxation training and then increased by 455% from baseline (per Table 5 means) during child management training. Follow-up indicates that the gains made during treatment on this measure did not maintain for Subjects 1, 2, and 4. Table 5 shows the positive-statement-by-coded-audiotape aggregate means for all subjects increased systematically from baseline, with the mean for follow-up increasing 617% from the mean for baseline.

Positive statements coded by observers (see Figures 47-52 and Table 5) show an increase from baseline to follow-up for each subject except 4. Each subject showed an increase in positive statements during each treatment with the exceptions of Subject 3, who maintained the same rate during cognitive treatment, and Subject 4, who decreased during cognitive treatment. Table 5 shows the aggregate means for all subjects on Positive Statements coded by observers increased from baseline to follow-up by 130%.

The three measures of positive statements summarized in Table 5 generally showed related patterns. There were both individual and systematic exceptions to the general relationship. On 24 possible comparisons between means for measures coded from observations and those coded from audiotapes, means from observations were higher on 20 comparisons, equal on 2, and lower on 2. This same pattern emerged on negative statements, but not to the degree seen

here. (Keep in mind that the self-reports covered 24 hours while the other two measures covered only 30 minutes, which eliminates direct comparison of means.)

Subject 5 showed the most dramatic difference in dependent measures. Comparing the means for cognitive therapy during the second phase of treatment, self-report was 4.8 positive statements in 24 hours, audiotape was 6.8 in 30 minutes, and observation was 20 in 30 minutes. Subject 5 was idiosyncratic in that self-reported positive statements were consistently lower than observed positive statements, even though the self-reports covered 24 hours. All three dependent measures did show Subject 5 increasing positive statements from baseline in each condition.

Looking at all three dependent measures for positive statements for each subject on Table 5, please note that all subjects except Subject 4 increased on two of the three measures, and four subjects increased on all three measures. Only Subject 4 decreased on two of the three measures. In general, subjects showed greater increases in positive statements during child management training than during other treatments.

Negative Statements

Negative parental statements to children were graphed for individual subjects in the same figures (35-52, above) as positive statements. Negative Statements are summarized in Table 6.

Table 6

Means and Ranges of Frequencies of Negative Statements by Self-Report, Coded Audiotape, and Coded Observation

Negative Statements by:	Baseline	Treatment 1st Phase	Treatment 2nd Phase	Probe
Subject 1		Cognitive	Child Mgt	
Self Report/day	5.7	4.5(1-7)	1.2(0-2)	.4(0-.7)
Tape/30 min	2	1(0-4)	1(0-3)	0
Observe/30 min	2	2.3(0-5)	.7(0-4)	.5(0-1)
Subject 2		Child Mgt	Child Mgt	
Self Report/day	3.8(3.7-4)	4.6(3.5-7)	3.3(2-4)	3
Tape/30 min	7.5(1-14)	9(2-14)	7.1(0-17)	2.5(0-5)
Observe/30 min	11(10-12)	3.5(2-5)	4.2(1-8)	3.5(1-6)
Subject 3		Cognitive	Child Mgt	
Self Report/day	5(4-6)	2.9(1-4.4)	2(1.5-3)	2(1-3)
Tape/30 min	5.5(5-6)	5.1(2-7)	1.5(0-5)	.5(0-1)
Observe/30 min	7	3.7(0-8)	1(0-4)	.5(0-1)
Subject 4		Cognitive	Cognitive	
Self Report/day	49(12-114)	16.4(6-52)	14.6(5-29)	1.5(1-2)
Tape/30 min	4(2-8)	2.6(0-7)	1.5(0-2.5)	.5(0-1)
Observe/30 min	8.5(8-9)	2.3(0-5)	2.7(0-9)	.5(1-1)
Subject 5		Cognitive	Cognitive	
Self Report/day	3.7(2-5.2)	3.4(.6-5)	1.3(0-3)	.5(0-1)
Tape/30 min	.3(0-1)	.5(0-2)	.2(0-1)	0
Observe/30 min	.3(0-1)	.3(0-1)	0	0
Subject 6		Relaxation	Child Mgt	
Self Report/day	15(8-20)	17(5-27)	16(6-22)	11.5(6-17)
Tape/30 min	1.4(.5-2)	2.8(0-7.7)	.9(0-2)	2.5(2-3)
Observe/30 min	1.7(1-3)	.1(0-1)	1.5(0-4)	0
All Subjects				
Self Report/day	14(2-114)	8.1(.6-52)	6.4(0-29)	3.5(0-17)
Tape/30 min	3.5(0-14)	3.5(0-14)	2(0-17)	1(0-5)
Observe/30 min	5.1(0-12)	2(0-8)	1.7(0-9)	.8(0-6)

Self-report data on negative statements show a decrease from baseline to follow-up for each subject (see Table 6). However Subject 6 did not decrease negative statements in the same systematic way as other subjects, increasing during the treatment phase, and then decreasing at the very end of treatment and during follow-up (see Figure 38). Aggregate means for all subjects on Table 6 show a systematic decrease from baseline in each experimental condition with the follow-up mean decreasing 75% from baseline.

Data coded from 30-minute audiotapes show a systematic decrease in negative statements for all subjects except Subjects 2 and 6. Subject 2 increased negative statements slightly during the first phase of treatment and then decreased during the second phase of treatment and during baseline. On the audiotape measure, Subject 6 increased negative statements during the first phase of treatment, decreased during the second, and increased during follow-up. Aggregate means for negative statements coded from audiotape for all subjects on Table 6 show a systematic decrease from baseline with the mean for follow-up decreasing by 71% from the mean for baseline.

Negative statements coded from observations (see Figures 45-50 and Table 6) showed a decrease from baseline to follow-up for all subjects. The decreases were systematic across all experimental conditions from baseline for Subjects 1 and 3. Subjects 5 and 6 decreased negative

statements coded from audiotape to 0. Aggregate means for negative statements coded from observations for all subjects on Table 6 show a systematic decrease from baseline with the mean for follow-up being 16% of the mean for baseline.

Considering all three dependent measures for negative statements for each subject on Table 6, it is notable that all subjects except Subject 6 showed a decrease from baseline on all three measures. Subject 6 increased negative statements measured by coded audiotape but decreased negative statements by the other dependent measures.

Parental Verbal Abuse

Parental verbal abuse (see Appendix H for a definition with examples) was coded from observation and audiotapes. The terms "parental verbal abuse" and "verbal abuse" refer to the same behavior in this paper. Parental verbal abuse to children was the only verbal abuse coded. The time period involved in both observation and audiotape was 30 minutes. There was no self-reported measure of verbal abuse. Table 7 shows that verbal abuse was a low-frequency behavior for all subjects except Subject 2. The modal response per 30-minute coding period was zero for all subjects except Subject 2. For that reason only Subject 2's verbal abuse was graphed (Figure 40) with positive and negative statements.

Verbal abuse did decrease from baseline for all subjects except Subject 5, who had a baseline rate of zero and only one abusive statement was coded during treatment. No verbal abuse was coded during follow-up for any subject.

Table 7

Means and Ranges of Frequencies of Verbally Abusive Statements Coded from Observation and Audiotape for All Subjects

Verbal Abuse Statements by:	Baseline	Treatment 1st Phase	Treatment 2nd Phase	Probe
Subject 1		Cognitive	Child Mgt.	
Tape	1	.3(0-1)	.1(0-1)	0
Observation	0	.3(0-1)	0	0
Subject 2		Child Mgt.	Child Mgt.	
Tape	4(0-8)	4.8(0-16)	1.3(0-7)	0
Observation	0	0	0	0
Subject 3		Cognitive	Child Mgt.	
Tape	.5(0-1)	1(0-3)	.4(0-2)	0
Observation	.5(0-1)	0	0	0
Subject 4		Cognitive	Cognitive	
Tape	.3(0-1)	.3(0-1)	.4(0-2)	0
Observation	.5(0-1)	0	.5(0-3)	0
Subject 5		Cognitive	Cognitive	
Tape	0	.5(0-1)	0	0
Observation	0	0	0	0
Subject 6		Relaxation	Child Mgt.	
Tape	0	0	0	0
Observation	.3(0-1)	0	0	0
All Subjects				
Tape	1.0(0-8)	1.1(0-16)	.4(0-7)	0
Observation	.2(0-1)	.1(0-1)	.1(0-3)	0

Parental verbal abuse was the only dependent measure on which coded audiotape yielded a higher frequency of behavior than did coded observation.

Reports to Public Agencies

The least intrusive dependent measure collected was the number of times that subjects were reported to child protective and treatment agencies (included reports made to the police). The six subjects who received treatment in this study were reported to child protective services a total of 17 times prior to entering treatment. That total includes a single re-report for Subject 5 that occurred during baseline (see p. 102). The frequency of reports of child abuse to DFS for each subject decreased to zero during treatment and follow-up, with one exception. Subject 4 was re-reported during the follow-up year by the parents of her ex-spouse, who were seeking custody of Subject 4's stepchild. DFS investigated but could not substantiate the report of abuse. In actuality, the follow-up period covered up to two years for the first subjects who finished treatment, and in no case was it less than one year.

Summary of Results by Subjects

Table 8, which displays the direction of change but not the magnitude, shows that all of the subjects improved on most of the dependent measures. The mean number of dependent measures on which subjects improved was 12.8 (out of a possible 16) and the range was 11 to 14.

Table 8

Comparison of Dependent Measures from Baseline to Follow-up (I=Improved, W=Worsened, and NC=No Change)

	SUBJECTS						
DEPENDENT MEASURES	S1	S2	S3	S4	S5	S6	TOTALS[a]
Agency Rept	I	I	I	I	I	I	6I 0W 0NC
Negative Contacts	I	I	I	I	I	I	6I 0W 0NC
Negative Feelings	I	W	I	I	I	I	5I 1W 0NC
Anxiety	I	I	I	I	I	I	6I 0W 0NC
EDR	I	I	I	I	I	I	6I 0W 0NC
Skin Temp	I	W	W	I	I	I	4I 2W 0NC
EMG	I	W	I	I	NC[a]	NC	3I 1W 1NC
Heart	I	NC	W	W	I	W	2I 3W 1NC
Positive Statements							
Self-Rept	I	I	I	I	I	I	6I 0W 0NC
Audiotape	NC	I	I	W	I	I	4I 1W 1NC
Observed	I	I	I	W	I	I	5I 1W 0NC
Negative Statements							
Self-Rept	I	I	I	I	I	I	6I 0W 0NC
Audiotape	I	I	I	I	I	W	5I 1W 0NC
Observed	I	I	I	I	I	I	6I 0W 0NC
Verbal Abuse							
Audiotape	I	I	I	I	NC[a]	NC[a]	4I 0W 0NC
Observed	NC[a]	NC[a]	I	I	NC[a]	I	3I 0W 0NC
TOTALS[a]							
Improved	14	11	14	13	13	12	77
Worsened	0	3	2	3	0	2	10
No Change	1	1	0	0	0	1	3

[a]Variables for which further improvement was not observable due to a floor effect are not included in totals.

The results summarized in Table 8 show that comparisons of baseline with follow-up for all subjects on all dependent measures indicated improvement in 77 of the 90 comparisons where improvement was possible; 10 of the comparisons indicated the subject got worse; 3 showed no change. Of the 16 dependent measures shown in Table 8, heart rate was the dependent measure on which subjects made the least improvement (only two of the six subjects improved on the post treatment heart rate measurement).

Reducing Abusive Behaviors to Criteria

The second objective of this study was to determine if more than one treatment modality would be necessary to reduce abusive behaviors to criteria. Three of the six subjects in this study received more than one treatment (see Table 2). Table 9 shows that three of the six subjects, Subjects 1, 3, and 5, met the criteria (see p. 36) for discontinuing all interventions. An additional subject, Subject 4, would have met the criteria if the follow-up probes had been included (by which time training had already been terminated).

Considering only the three subjects who met the criteria for discontinuing all interventions during the training period, Subjects 1 and 3 received more than one treatment while Subject 5 received only one treatment. Only Subject 2 failed more than one of the criteria. None of the subjects failed the frequency-of-negative-statements

criterion. The strength-of-negative-feelings criterion was the most-frequently-failed criterion (failed by two subjects). None of the subjects who received cognitive modification training failed the negative-feelings-toward-children criterion.

Table 9

Criteria for Termination of All Interventions Met During Training by All Subjects

	SUBJECTS						
CRITERIA	S1	S2	S3	S4	S5	S6	**TOTALS**
Neg Contacts	Yes	Yes	Yes	No[a]	Yes	Yes	5 of 6
Verbal Abuse	Yes	No	Yes	Yes	Yes	Yes	5 of 6
Neg Statements	Yes	Yes	Yes	Yes	Yes	Yes	6 of 6
Neg Feelings	Yes	No	Yes	Yes	Yes	No	4 of 6
ALL CRITERIA MET	Yes	No	Yes	No	Yes	No	3 of 6

[a]This criterion had a 4-week time requirement. Subject met criterion level during last week of training and maintained during follow-up probe, but did not meet time criterion during training.

Training to Competency

The third and final objective of this study was to determine if the assessment-based intervention employed would result in knowledge and performance competency. The criteria for discontinuing individual training components served two functions. In addition to identifying termination points for individual training components, they served as criteria for competency in that component.

Table 10 shows that two of the four subjects who received child management training met all of the criteria for competency in that component. Only one of the four subjects receiving cognitive modification training met all of the criteria for competency. The only subject who received relaxation training met the criteria for competency. The most frequently failed criteria dealt with frequency of positive statements.

Table 10

Criteria For Competency in/Termination of Individual Training Components Met by Subjects Who Received Those Components

	SUBJECTS						
CRITERIA	S1	S2	S3	S4	S5	S6	TOTALS
Competency/Termination of Child Management Training							
Final Review	Yes	No	Yes			Yes	3 of 4
Pos Statement	No	No[a]	Yes			Yes	2 of 4
Competency/Termination of Cognitive Modification Training							
Neg Feelings	Yes		No[a]	Yes	Yes		3 of 4
Pos Statements	No[a]		Yes	No[a]	Yes		2 of 4
Neg Statements	Yes		No	Yes	Yes		3 of 4
Competency/Termination of Relaxation Training							
SUDS						Yes	1 of 1
Physiological						Yes	1 of 1

[a]Met criterion during some weeks of treatment but did not meet criterion at termination of training component.

Individual Treatment Effects

Subject 1. This 46-year-old subject was a married woman with five children living at home. She was a child of an abusive alcoholic father. Subject 1 was referred to this study by BRMH. She had reported her husband to DFS for child abuse about a year earlier. He received treatment and stopped physically abusing the children; however, the home remained chaotic and children refused to participate in household chores. Subject 1 became physically abusive, and then reported her own abusive behavior to a therapist at BRMH who had worked with her husband.

Assessment indicated that Subject 1 was an intelligent individual with better than average knowledge of child management principles (scored the highest of the subjects on the KBPAC), not physically tense (see Table 4), verbally passive (Tables 4 & 5 show a very low frequency of verbal behavior), with scores on the Beliefs Inventory that were two standard deviations above the mean on two scales. By observation and self-report the subject was angry with her children and spouse but responded by withdrawing from her family. She met the Diagnostic and Statistical Manual III-R (DSM III-R) (American Psychiatric Association, 1987) criteria for passive-aggressive personality disorder and the criteria for dysthymia. She initially received 7 weeks of cognitive modification training followed by 6 weeks of child behavior management training. Child behavior management training was selected as the second treatment (in spite of

adequate cognitive knowledge of child behavioral management principles) because her rate of positive statements to her children remained very low.

Figure 1 shows that self-reported negative physical contacts decreased to zero during cognitive modification training, but so did the frequency of positive statements (see Figures 41 and 47). Figures 41 and 47 show that with the introduction of child management training, negative statements decreased and positive statements increased. However, the increases were not sufficient to meet criteria (5 per 30 minutes).

As shown in Table 8, Subject 1 improved on 14 dependent measures, showed no change on 2 (one of which, verbal abuse by observation, had a rate of zero during baseline which left no room for improvement), and did not get worse on any dependent measure.

Table 10 shows Subject 1 met the criteria for terminating all intervention, but failed the criteria for terminating both child management and cognitive modification training because of a low frequency of positive statements. She also had a low frequency of negative statements indicating that she was a quiet person. The paradoxical combination of failing to meet some of the competency criteria for a component but meeting the criteria for termination of intervention was possible because the criteria for terminating individual treatments were specific to the treatment modes being presented, while the criteria

for termination of all forms of intervention were more general (i.e., the frequency-of-positive-statements criteria for competency in child management was five or more in 30 minutes, while the criteria for termination was a 50% increase from baseline). The criteria for termination of all intervention were met during the second treatment mode, supporting the finding that more than one treatment component was necessary to train the subject to criteria. (See chapter 5 for a discussion of suggested changes in criteria.)

Follow-up probes shown in Figures 1, 7, 13, and 35 indicate that treatment effects maintained for those dependent variables. Figures 41 and 47 (frequency of positive and negative statements by coded audiotape and by observation) indicate that the decrease in frequency of negative statements maintained, but the increase in frequency of positive statements (in contrast with self-reported positive statements in Figure 35) did not.

Subject 2. This 24-year-old subject was a married woman with two very active pre-school boys. Her spouse was not active in parenting except for outbursts of anger when the children's behavior interrupted his activities. Subject 2 was the only subject who did not drive. DFS received three complaints about the abusive behavior of this subject in the year before they referred her to this study. She had been referred to a parenting program for abusive behavior, which she completed about a year before she was referred to

this study. She reported a history of having been abused as a child.

Assessment indicated that Subject 2 was below average on knowledge of child management principles, scoring only 22% correct on the KBPAC. Physiological measures indicated a lack of physical tension (see Table 4). She scored more than two standard deviations above the mean on three of the Beliefs Inventory scales. Subject 2's reading ability and vocabulary were on an early elementary school level, indicating below average intelligence. She received 12 weeks of child behavior management training, but failed to demonstrate cognitive competency of the principles. Training was discontinued based on the 12-week criterion.

Table 8 shows that Subject 2 improved on 11 dependent measures (the least by any subject), showed no change on 1, and got worse on 3 dependent measures. She got marginally worse on skin temperature and EMG but these measures remained in ranges that indicate a lack of physiological tension. Negative-feelings-toward-children was the other measure on which Subject 2 got worse. This change was also very small in magnitude, increasing from a mean of 45 to 48 on a 100-point scale. The most clinically significant changes were decreases in self-reported negative physical contacts (see Table 3) and decreases in negative statements coded from observation and audiotape (see Table 6).

Some of the improvements (e.g., increased positive statements and decreased negative statements by observation

as shown in Figure 48) began to fade during the follow-up probes.

Figure 10 shows that Subject 2 met the negative contacts and negative statements criteria, but failed the verbal abuse and negative feelings criteria for termination of all intervention. She was the only subject who failed more than one of the criteria for termination of all intervention.

Table 10 shows that Subject 2 failed both of the criteria for competency in/termination of child management training. Although she was cooperative during training, her limited cognitive capacity impeded her comprehension of the vocabulary used in the child management training, which made cognitive competency of the concepts very difficult. She would have benefitted from a child behavior management training package with an elementary vocabulary and a reinforcement-based program that shaped her behavior in the same way that the package used in this study tried to teach her to modify her children's behavior (see chapter 5 for discussion).

Subject 2 may have benefitted as much from the increased positive social contact as she did from learning child management principles. This hypothesis is supported by Wahler's (1980) finding that on days when social contact increased, insular mothers reported fewer incidents of physical abuse (see chapter 5 for discussion).

Subject 3. This subject was a chronically depressed 52-year-old man with a graduate degree, who reportedly came from a home with an abusive, alcoholic father. He was reported to DFS for child abuse four times in the year before he was court-ordered into treatment and DFS referred him to this study. He met DSM III-R (American Psychiatric Association, 1987) criteria for major depression, recurrent, and for obsessive compulsive personality disorder.

Assessment indicated that Subject 3 had an average knowledge of child behavioral management principles. He scored more than two standard deviations from the mean on 4 of the 10 scales of the Beliefs Inventory (tied for the highest number of scales more than two standard deviations from the mean). Physiological measures on the stress profile indicated a lack of physical tension. Subject 3 received 9 weeks of cognitive modification training and 10 weeks of child behavioral management training.

Table 8 shows that Subject 3 improved on 14 dependent measures and got worse on two measures. Both of the measures on which this subject got worse were physiological measures; however, he improved on the other two physiological measures. The magnitude of these mixed physiological changes were in the range normally attributed to random variation. Clinically significant changes were recorded in self-reported decreases in negative physical contacts (decreased to 0), negative feelings toward children, and anxiety rating (see Table 3). All three

measures of frequency of positive statements showed increases (see Table 5), and all three measures of frequency of negative statements showed clinically significant decreases (see Table 6).

Follow-up probes indicate (see Figures 3, 9, 15, 37, 43, and 49) that the improvements summarized in Table 8 maintained or increased after termination of treatment.

Table 9 shows that Subject 3 met criteria for overall termination of training after receiving 9 weeks of cognitive modification training followed by 10 weeks of child management training. Table 10 shows that he did not meet the criteria for negative feelings or negative statements for cognitive modification competency at the end of cognitive modification training. He did meet those criteria and the criteria for termination of child management training at the end of child management training. He met the criteria for competency/termination of child management training at the end of that training component.

Subject 3 became enthusiastic about the training he received and began to smile more and complain less as treatment progressed. He reported that he felt less depressed. His spouse reported that he looked and acted less depressed following treatment.

Subject 3 could be described as a willing skeptic. When asked to try a new behavior management technique, he would say, "I know that this won't work with my kids, but I will try it as an experiment." This willingness to

experiment was probably a factor in his successful assimilation of the training he received.

Subject 3 was one of the subjects who showed indications that the family needed conjoint family therapy. When his negative physical contacts by self report went to zero early in cognitive modification training, the children stopped doing chores and acted in ways that encouraged a return to physical force. For example, during a family trip to a neighboring city that took place at that time, the children in the back of the station wagon "mooned" a passing highway patrol officer, who stopped Subject 3 and informed him of the "dangerous distraction to passing motorists." Additional support for a family system (Alexander & Parsons, 1982; Pardeck, 1989) intervention comes from the report that the mother, who had reported Subject 6 for physical abuse, began to use negative physical contact to manage the children's behavior after Subject 3 stopped using abusive physical coercion.

Subject 4. This subject was a 33 year-old woman with two children and two stepchildren living at home. Both she and her husband held jobs that took them out of the home on changing shifts. She was reported to DFS for child abuse three times in the year prior to the DFS referral to this study. Subject 4 met the DSM III-R (American Psychiatric Association, 1987) criteria for depression and personality disorder not otherwise specified (mixed). She had participated in two previous abuse prevention programs under

the direction of DFS, which may have accounted for her above average score on the KBPAC.

Assessment indicated that Subject 4 had an above average knowledge of child behavioral management principles. She scored more than two standard deviations from the mean on 4 of the 10 scales of the Beliefs Inventory (tied for the highest number of scales more than two standard deviations from the mean). Physiological measures indicated a moderate amount of physical tension (see Table 4). Subject 4 received 12 weeks of cognitive modification training.

Table 8 shows that Subject 4 improved on 13 of the dependent measures and got worse on 3 measures. Clinically significant improvements were seen on all three self-reported measures on Table 3. Changes in the physiological dependent measures were mixed. Coded positive statements from both audiotapes and observations declined slightly from an already low baseline rate, while the self-reported measure indicated an increase in positive statements (see Table 5). Table 6 shows clinically significant decreases in the frequency of negative statements by all three dependent measures. Subject 4 was the only subject re-reported to a public agency for child abuse in the year following completion of the treatment phase. The grandparents of an ex-spouse reported abusive behavior while seeking custody of their grandchild. DFS was unable to substantiate the allegation.

Both assessment and observations during training indicated that cognitive modification training was a much-needed intervention. Subject 4 was angry with her stepson's imperfection and showed her perfection-oriented cognitive distortions by scoring more than two standard deviations from the mean on 4 of the 10 scales of the Beliefs Inventory. Comparison of Tables 8, 9, and 10 indicate that Subject 4 improved on 13 of the dependent measures but did not meet the criteria for overall termination or for termination of cognitive modification training. She reduced self-reported negative contacts but not to criteria during training. Figure 4 shows that the improvement in frequency of negative contacts continued and met criterion during follow-up probes.

Subject 5. This 22-year-old married man was the youngest subject in the study. He was a college student of above average intelligence who worked full time by working at night and holding a second job. His schedule made it difficult for him to meet with our home observers. Both of his children were under the age of two. Severe marital difficultly led to separation during the course of the study. DFS referred Subject 5 to this study after receiving three reports of child abuse. He agreed to participate but after the first week of baseline, stopped providing data and missed appointments with our data collectors. He again agreed to participate and provided some baseline data during weeks six and seven, and then he became non-compliant again.

A few weeks later, he was again reported to DFS by his spouse and his children's pediatrician and was court ordered (based on a recommendation from DFS) to complete this study. His spouse also provided data on her observation of his frequency of negative physical contacts (see Figure 5).

Subject 5 met the DSM III-R (American Psychiatric Association, 1987) criteria for intermittent explosive disorder. He reported frequent uncontrollable feelings of rage and had a history of arrests for assault. He lost jobs more than once a year as a result of poor temper control. Subject 5 reported using frequent physical workouts as a strategy for controlling his temper. He reported growing up in a chronically physically abusive home.

Assessment indicated that Subject 5 had a below average knowledge of child behavioral management principles. He scored more than two standard deviations from the mean on two scales of the Beliefs Inventory. The physiological data in Table 4 show a low heart rate, consistent with good physical health; however, EDR and skin temperature indicated moderate physiological tension and those two measures showed reactivity to the audio stress tape. The assessment indicated that this subject should be considered for each of the four treatments used in this study. The principal target of his abusive behavior was a 6-month-old infant, too young to benefit from the child management program used in this study.

During baseline Subject 5 failed to complete most activities that the experimenter did not personally supervise. His noncompliance raised doubts that he would have the motivation or discipline to practice relaxation skills twice a day as required. Cognitive modification training was selected as the treatment of choice because it offered more interaction with the experimenter (he was more responsive to the experimenter than he was to the data collectors) and the potential to quickly establish a personal relationship as a tool to prevent the subject from dropping out a third time. Marvel (1987) found that a cognitive modification training package (the cognitive modification training package used in this study was an expanded version to the package Marvel used) was the most effective treatment component for a marginally motivated male subject (see Marvel, 1987, p. 156).

Table 8 shows that Subject 5 improved on all 13 of the dependent measures where improvement from his baseline was possible. Three physiological measures improved and showed less reactivity to the audio stress tape (EDR showed no change, but was approximately 1.5 micromhos, a level where improvement is not possible). Table 3 shows clinically significant decreases in negative physical contacts (decreased to 0 during the last weeks of treatment and maintained during follow-up probes) and in negative feelings toward children. Tables 5 and 6 show clinically significant increases in positive statements and decreases in negative

statements coded from both audiotape and observation. He has not been re-reported for child abuse since the report during baseline.

Follow-up probes indicate (see Figures 11, 17, 39, 45, and 51) that the improvements summarized in Table 8 continued after termination of treatment.

Subject 5 met both the criteria for discontinuing all interventions (see Table 9) and the criteria for termination of the cognitive modification training (Table 10). He was the only subject who met the criteria for terminating all interventions after receiving only one treatment modality.

During the early weeks of treatment he was diagnosed by his physician as hypertensive (blood pressure was 145/105). His blood pressure as monitored by his physician decreased to the normal range without medication by the end of the treatment phase. A physical in July of 1990 recorded his blood pressure at 118/68. Since the 6th week of training Subject 5 has not lost a job, nor has he been arrested for any reason. This anecdotal evidence indicates that the cognitive modification skills generalized beyond the home and clinic settings.

Subject 6. This 28-year-old married woman was referred to the study by BRMH. She lived with five preteen children and a distant but controlling spouse who provided little help with parenting. At times she had to rely on a bicycle for transportation. She appeared to be rather harried and socially isolated from adult friends.

Assessment indicated that Subject 6 had an above average knowledge of child behavior management principles, but home observation provided little evidence of the application of that knowledge. Subject 6 did not score two standard deviations from the mean on any of the scales on the Beliefs Inventory. Two of the physiological measures (EDR and skin temperature) indicated that she was physically tense; however, there was little physiological reaction to the audio stress tape (see Figure 29 and Table 4).

Subject 6 received 13 weeks of relaxation training followed by 7 weeks of child behavior management training. Figures 31 and 32 show the clinically significant changes (e.g., more than 20 degree Fahrenheit increase in skin temperature) in skin temperature and EDR for Subject 6. Figures 33 and 34 show the systematic change in skin temperature and the related change in SUDS ratings measured during the relaxation training sessions. Note (Figure 33) that skin temperature showed no end-of-session improvement for the first seven training sessions. At the end of Session 6 the trainer initiated a problem solving discussion and learned that the subject had a sphincter control problem and was afraid an accident might occur if she relaxed. Options were identified and once the concern was shared, Subject 6 began to make progress.

Figure 6 shows that Subject 6 reduced negative physical contacts to 0 as she learned to use the relaxation skills. However, Figures 46 and 52 indicate that when no observer

was present (audiotape), the frequency of positive statements decreased (from an already-low baseline) as relaxation improved. For that reason, child behavior management training was provided. As shown in Figures 46 and 52, during child behavior management training the frequency of positive statements increased while that of negative statements declined. Table 8 shows that Subject 6 improved on 12 dependent measures and got worse on 2 measures. In addition to the clinically significant changes mentioned above, Table 3 shows a 50% decrease in the self-rated anxiety level.

Table 9 shows that Subject 6 did not meet the criteria for overall termination of treatment in that she failed to reduce self-reported negative feelings toward children by 50%. It is interesting that Subject 6 was the only subject who met the criteria for discontinuation of the training components that she received (see Table 10), but did not meet the overall criteria for termination of all intervention (Table 9). Implications for evaluation of criteria are discussed in chapter 5. The failure of the treatment package to lower negative feelings toward children indicates that this subject might have benefitted from cognitive modification training (not provided due to treatment time limitation).

Follow-up probes indicate (see Figures 12, 18, 40, 46, and 52) that the improvements summarized in Table 8 maintained or increased after termination of treatment.

CHAPTER V

DISCUSSION

The discussion begins with a summary of findings focused on the initial objectives of the study, followed by strengths, limitations, and threats to validity. The chapter concludes with recommendations for future studies.

Objective Related Findings

Decreasing abusive behavior. The first objective of this study was to determine if the assessment-based treatment employed would decrease abusive behavior as measured by self-report and/or behavioral observations and indications. The results indicate that the assessment-based treatment program reduced the indicators of abusive behavior for all six subjects.

The results summarized in Table 8 show that comparisons of follow-up with baseline for all subjects on all dependent measures indicated improvement in 77 of the 90 comparisons where improvement was possible; 10 of the comparisons indicated the subject got worse; 3 showed no change. Heart rate was the only dependent measure (of the 16 dependent measures shown in Table 8) on which a majority of subjects (four of six) got worse. Heart rate is one of the dependent measures that is conceptually less directly related to child abuse.

The four indicators which are conceptually most closely related to physical child abuse are negative physical

contacts (by self report), reports of observed abuse made to agencies, verbal abuse (coded from observation and audiotape), and negative statements to children (measured by self report, coded audiotape and coded observation). As shown in Table 8, all of these indicators improved for all subjects, with the exception of Subject 6, who increased her frequency of negative statements on one of three measures, namely, coded audiotape. The other two measures of frequency of negative statements, self report and coded observation, indicated decreased frequency.

These findings indicating improvement are consistent with other studies using multiple treatment approaches (Denicola & Sandler, 1981; Lutzker & Rice, 1984; Marvel, 1987). However, most previous multimodal studies (e.g., Marvel, 1987; Wolfe et al., 1981) have used multiple treatments in a "shotgun" approach, in which all subjects receive all treatments. Consequently, the approach used in this study may well be more efficient clinically as well as more cost effective. However, additional corroborative research is needed.

Number of treatment modalities needed to reduce abusive behavior to criterion. The second objective of this study was to determine if more than one treatment modality would be necessary to reduce abusive behaviors to criterion. Three of the six subjects in this study received more than one treatment (see Table 2). Table 9 shows that three of the six subjects, Subjects 1, 3, and 5, met the overall

criteria (see p. 36) for discontinuing all intervention. An additional subject, Subject 4, met the criteria if the probes are included (by which time training had already been terminated). Considering only the three subjects who met the overall criteria for discontinuing treatment, Subjects 1 and 3 had more than one treatment while Subject 5 received only one treatment.

While it was not within the scope of this study to determine if multimodal treatments are superior to a single assessment-selected treatment, both the initial assessment and subsequent observations indicated that each of the subjects would have benefitted from more than one of the offered treatments. There were also clear indications that most of these subjects would have benefitted from additional treatments that were not offered in this study, for example, conjoint marital therapy, family therapy (Pardeck, 1989), and treatment that addressed the ameliorative needs of the children who were the victims of abuse. Lutzker and his colleagues on Project 12-Ways (1984, 1987) reported results supporting the use of a wide variety of community treatment options for dealing with physically abusive parents.

The general finding on the second objective is that results indicate it takes more than one treatment for most subjects to reduce abusive behaviors to the criteria used in this study. This finding is consistent with findings and research-based recommendations by Lutzker and Rice (1987), Marvel (1987), and Wolfe (1985).

Criteria for discontinuing treatment. Results relating to the second and third objectives have as much relevance for evaluating the criteria as they do for evaluating the treatment program. There is a paucity of published criteria for discontinuing treatment for physically abusive parents. The elemental question is at what point change is sufficient to warrant termination of treatment for abusive parents. Wolfe and colleagues (1981) used a competency-based parent training program for abusive parents, which relates to the third objective of this study (will assessment-based intervention result in knowledge and performance competency?) but they did not publish criteria for discontinuing an overall treatment program. As there were no published or validated criteria available, the criteria used in this study were based on the judgement of the experimenter.

Only three of the six subjects met the overall criteria for termination of treatment (see Table 9). The question arises, were the criteria too high or was the treatment inadequate? The criteria for overall termination of treatment in this paper (from p. 36) were as follows. The intervention process was terminated when all of the following occurred: (a) all observations and self-reports indicated negative physical contacts at two or less for 4 weeks, (b) the frequency of verbal abuse as coded from audiotapes was no more than one in 60 minutes, (c) the frequency of negative statements as coded from audiotapes

was no more than two in 30 minutes, and (d) self-reported negative feelings toward children had decreased from baseline by 50%. Table 9 shows that one subject failed to meet the negative contacts criteria. One subject failed to meet the criteria for verbal abuse. All subjects met the criteria for negative statements. And two subjects failed to meet the criteria for reduction of negative feelings. Only Subject 2 failed to meet more than one of the criteria.

It appears that three of the criteria for discontinuing overall treatment were approximately equal in difficulty, as failures were rather evenly distributed, with no single criterion accounting for more than two failures. However the negative statements criteria (two or fewer negative statements per 30-minute audiotape) may have been too lenient, as all six subjects passed. An alternative explanation, consistent with findings reported by other researchers (Barth et al., 1983; Marvel, 1987; Nomellini & Katz, 1983) is that the treatments employed were more effective at reducing negative statements than at modifying the other dependent variables.

The negative-contacts criterion was the only criterion with a long (4-week) time requirement. As Table 9 indicates, if the treatment phase had been longer, Subject 4 would have met the criterion.

Multimodal treatments are supposed to address different etiological components of multidetermined behaviors. It follows that termination criteria should address more than

one factor. It is also consistent that the multi-factor termination criteria used in this study might not be met by subjects who received only one or two treatment modes.

The discussion of the first objective (pp. 107-108) concluded that the overall treatment package reduced a large majority of the indicators of child abuse for all of the subjects, yet only half of the subjects met the criteria for discontinuing treatment. Does that mean that the criteria for termination of treatment were too high? The answer depends, in part, on the function for which the criteria will be used. If the criteria are used to evaluate the efficacy of a treatment package composed of a single assessment-selected component, the criteria may be too high, or--more appropriately--too wide.

However if the criteria function to determine when the parent has received sufficient treatment that the child may be safe from future physical abuse, it could be argued that the criteria are too low. For example, criterion "a" on page 110 required negative physical contacts be two or less for 4 weeks. That criterion would be met if a parent hit a child with a bat only twice a month. Clearly, that is not acceptable. That situation did not arise in this study but the potential problem it illustrates is one that grows out of the continuing difficulties with definitions of child abuse and the related problems with defining criteria. See recommendations for future research for recommendations about modifying criteria.

Summarizing, results indicate that more than one treatment is usually needed to reduce indicators of abuse to criteria, even when the treatment is selected by assessment. Further support for this conclusion was seen in the discussion of treatment effects for each subject.

Knowledge and performance competency. The third and final objective of this study focused on the question: Will the assessment-based intervention used in this study result in knowledge and performance competency? Discussion of this objective will be organized by treatment mode, focusing on child management training, followed by cognitive modification, and concluding with relaxation. Again, criteria for competency were not available from a published or validated source. Wolfe and colleagues (1981) used a competency-based parent training program for abusive parents, but the competency criteria are specific to the training package used. With the exception of relaxation criteria, the criteria were based on the judgement of the experimenter.

Competency in knowledge of child behavior management was assessed by two measures: correct responses to the review question at the beginning of each training session which were required before progressing to the next topic, and a score of 80% correct on the Child Management Final Review Questions (Appendix D). Four subjects received child management training (see Table 2). Three subjects received child management plus one additional treatment component.

Subject 2 received only child management training for 12 weeks. All subjects except Subject 2 met the 80% on the final exam criterion.

The performance criterion for child behavior management required the last two coded audiotapes to show a frequency of positive statements of at least 5 in 30 minutes. Two of the four subjects who received child behavior management training met the performance criterion (see Table 10). It is noteworthy that all four of the subjects met the performance criterion during the differential reinforcement (catch them being good) portion of the training, but Subjects 1 and 2 failed to maintain criterion level.

The child management training package used in this study was an expansion of the program Marvel (1987) used. Both programs were based on the Parenting Packet: A Step-by-Step At Home Approach to Changing Children's Behavior (Children's Behavior Therapy Unit, n.d.). Marvel's results also showed the highest frequency of positive statements occurred during the differential reinforcement portion of child behavior management training. Marvel found that the package reduced the frequency of negative statements but did not raise the frequency of positive statements. He concluded that the child management treatment should be "based upon skill competency rather than the completion of a circumscribed number of lessons" (p. 142). Similar results (indicating treatment is more likely to lower the frequency of negative than to raise the frequency of positive

statements) were reported by other researchers (Barth et al., 1983; Nomellini & Katz, 1983).

The expanded treatment package used in the present study added training to criteria in each lesson, which meant that more training was provided on any skill for which the subject did not meet the lesson criteria.

None of Marvel's (1987) six subjects would have met the performance criteria in the present study. A comparison of results indicates that the expansion of the child management treatment package increased the frequency of positive statements. The finding that only two of the four subjects receiving child management training met the performance criteria at the end of treatment indicates that the treatment package needs further improvement. This topic will be discussed further in recommendations for future research.

Competency in knowledge and performance of cognitive modification skills were assessed during each session by evaluating assigned homework, and selecting one unresolved problem and having the parent apply the cognitive skills to the problem. The performance criteria for successful termination of this treatment component required that all of the following occurred: (a) self-reported negative feelings toward children decreased from baseline by 50%, (b) coded audiotapes showed that positive statements toward children have increased from baseline by 50%, and (c) negative verbalizations toward children as coded on the audiotapes

decreased 50% from baseline and did not exceed 2 in 30 minutes.

Table 10 shows that three of the four subjects who received cognitive modification training met the negative feelings criterion. Two subjects met the positive statements criterion. Three subjects met the negative statements criterion. Only one of the subjects, Subject 5, met all of the criteria for discontinuing cognitive modification training. Only Subject 3 failed more than one criterion.

Cognitive modification had more criteria for termination than other treatment modes. That may account for the lower percentage of subjects receiving this treatment who met the criterion for terminating the treatment component in comparison with the other treatment modalities.

Relaxation had only two criteria, and both were performance related: SUDS rating below 10; and targeted physiological parameter meets criterion, which was skin temperature above 90 degrees Fahrenheit for the subject who received relaxation. Subject 6 met both criteria. Figure 33 shows that it took 19 relaxation sessions over 13 weeks to meet the criterion.

There was an inconsistency in criteria selection for discontinuing treatment components. Cognitive modification had three criteria that were all direct indicators of child abuse, but were not as directly related to the cognitive

modification training. Relaxation had two criteria that were more closely related to the relaxation training than to child abuse. For example, skin temperature is a more direct indicator of performance competency for relaxation than is frequency of positive statements for cognitive modification. The criteria for termination of cognitive modification training may have been more stringent than criteria for other treatment components.

Strengths

The fact that only one subject dropped out of this study (and she dropped out reluctantly, after being assaulted and threatened by her live-in boyfriend) deserves comment. Marvel (1987) drew from a very similar subject pool (he recruited from the same agencies, but subjects could also self refer in Marvel's study) and he used very similar treatments. Of the 13 subjects interviewed, only 5 completed the Marvel study (38%). The present study had an 83% completion percentage. The most obvious difference in the two studies was that the present study included assessment as the basis for treatment selection.

It is possible that assessment-based treatment fosters at least the perception that "this treatment program is designed for me." That perception may increase the subject's commitment to the treatment. Subjects were recruited using a flyer that emphasized the potential advantages of assessment by stating, "You will receive only

training that assessment indicates you need. We will not teach you skills that you already have." Subjects may have seen the assessment as evidence that the experimenters were interested in them as individuals. Evidence that the subjects did form some emotional link with either the program or the experimenters (or both) comes from the fact that five of the six subjects who did complete the study requested continued contact with the experimenters after termination of their training. (Subject 2 was the single exception.)

This possible link between assessment and lack of attrition received support from a study of 65 families targeted as high risks for child abuse by Dush and Stacy (1987). These authors looked at the effect of pretesting on attrition and found that subjects not pretested showed three times the attrition of the subjects who were pretested at the outset.

The requirement that all subjects in the present study be agency referred (and the fact that two were court ordered) may also have contributed to the low rate of attrition. Subject 5, for example, was in the process of dropping out when he was re-reported and then court ordered to complete this program. This supports the value of consistently complying with the child abuse reporting laws as a method of increasing the number of abusive parents who complete abuse prevention programs.

Another strength of this study was that all of the subjects improved on most (77 of 90 measures on which improvement was possible) of the indicators of abuse summarized in Table 8. Some clinically significant change was made by each subject (See Tables 9 and 10).

The final strength which will be noted was that this was a clinical study. Subjects did not volunteer, but were identified as abusive parents by the social services network. The motivators were intrinsic to the treatment and both the assessment and the treatment procedures could be used by a single clinician without special funding or assistance.

Limitations

Treatment program limitations. The treatment packages used in this study had a number of limitations. The child behavior management package adapted from the Parenting Packet: A Step-by-Step At Home Approach to Changing Children's Behavior (Children's Behavior Therapy Unit, n.d.) was limited in scope of application. It was less effective for parents with lower than average intellectual ability or vocabulary. It was not useful for training abusive parents whose behavior was directed at children under the age of 18 months. The child management package appeared to be more effective for parents dealing with children between the ages of 2 and 10 years.

The child behavior management package was more effective in lowering the frequency of negative statements than in raising the frequency of positive statements. This limitation is mentioned in the literature as a characteristic shared by other child management packages (e.g., Barth et al., 1983; Marvel, 1987; Nomellini & Katz, 1983).

The problem solving approach of the cognitive modification training program used in this study had to be modified to meet the needs of the subject with intermittent rage disorder (Subject 5). Training for that subject included David Burns' (1980) cognitive modification techniques for dealing with anger using an anger hierarchy to help the subject recognize small degrees of anger. This allowed the subject to use cognitive techniques before his anger got out of control. Burns Book, Feeling Good: the New Mood Therapy (1980) appears to offer a cognitive modification approach with more techniques for dealing with a wider range of subjects and problems than the package used in this study.

This study was limited in that it focused exclusively on the parents in both assessment and treatment. That limited focus was adopted to examine the potential of parent training, not withstanding both theory and research indicating that "the child plays more than a passive role in abuse" (Friedrich & Boriskin from The role of the child in abuse: A review of the literature, 1976, p. 580).

Assessment limitations. In view of the current popularity enjoyed by cognitive therapy, it is surprising to note that when this study was initiated the experimenter was unable to find a standardized paper and pencil device for assessing the type and the strength of cognitive distortions. The Beliefs Inventory (Davis et al., 1980) used in this study had no published normative data. When it was administered to 25 subjects to provide normative data for this study, psychometric problems became evident. This assessment considered each subject who scored two or more standard deviations from the mean on two or more scales as candidates for cognitive modification training. On one of the scales it was not mathematically possible to score two standard deviations from the mean.

The KBPAC (O'Dell et al., 1979) used vocabulary and grammar that were on a university level, which limited its validity as an assessment tool for the target population.

The dependent measure called strength of negative feelings toward children was limited in that it measured only negative feelings. This dependent measure was designed in this way so that the same style of 100-point scale could be used to rate anxiety (in SUDS) and strength of negative feelings. There was no way for the parent to report any increase in positive feelings that occurred; only a lack of negative feelings could be reported. Future studies should use either a bipolar scale (positive on one end and negative

on the other) or two scales that allow the parent to report both negative and positive feelings simultaneously.

Validity of the assessment package. It is not possible from this study to determine if the assessment procedures selected the best possible initial treatment mode. Assessment indicated that most of the subjects would have benefitted from most of the treatments. The small sample size (n = 6) limits inferences that can be made to the population regarding the proportion of abusive parents that would benefit from any particular treatment modality. Since it was true of every parent in this study, it could be inferred that most abusive parents would benefit from more than one treatment modality. None of the subjects received systematic desensitization training. That says more about the assessment process and treatment design than it does about the proportion of abusive parents needing systematic desensitization training. Results shown in Table 4 indicate that some subjects (e.g., Subject 5, see also Figure 27) did show a physiological reaction to the audiotape of their child crying, whining or arguing. The design factor that mitigated against the selection of systematic desensitization was that the study was time limited and systematic desensitization training can begin only after the parent has demonstrated the ability to relax by meeting the physiological criteria for relaxation stated in the assessment section. That usually means that a subject needs relaxation training prior to receiving systematic

desensitization. This two-hurdle type requirement did not exist for other treatment modes.

Time limitations. Time was a limitation of this study. The initial plan was to treat twice a week for 12 weeks. It was not possible to meet with some of the subjects twice a week (e.g., Subject 6 received 19 relaxation training sessions in 13 weeks).

Assessment and observation indicated that most subjects would have benefitted from more than one treatment (see discussion pp. 108-109). Only the time limitation prevented all subjects from receiving two or more treatment components. As shown in Figure 4, if Subject 4 had received the same treatment for 3 more weeks, she would have met the criteria for termination of all intervention. Generalizing, these subjects probably received more treatment than is given in most studies, but less treatment than is given to abusive families in most clinical settings.

Threats to Internal Validity

Internal validity refers to the extent to which the experiment controls extraneous variables in order to rule out alternative explanations of the results (Borg & Gall, 1983).

The collection of dependent measures was an intrusive process involving observers in the home, subjects' turning on tape recorders, and daily self-reports. The frequent collection of measures was a form of repeated testing, a

recognized threat to internal validity (Borg & Gall, 1983; Kazdin, 1982). It could be argued that the intrusive repeated testing produced some of the results or that the testing interacted with the treatment to effect results (Cook & Campbell, 1979). For example, repeated testing may have acted as a form of systematic desensitization that contributed to the pre/posttest decrease in physiological stress indicators and the decrease in physiological reactivity to the stress audiotape (see Table 4).

Comparing the results of Subject 6, the only subject who received relaxation training, with the results of the other subjects on Table 4 provides some evidence that reactivity to testing does not account for the clinically significant effects of treatment. Subjects who received no relaxation training changed skin temperature in both directions by 1 to 3 degrees Fahrenheit. Subject 6 changed skin temperature in a positive direction by 20 degrees. All of the subjects received the same number of repeated testings.

Subjects made the biggest changes in those dependent measures that were most closely related to the treatment they were receiving. The frequency of positive statements increased the most for subjects who received child management training, and those increases came during the time they were receiving that training. Relaxation training coincided with the greatest improvement in physiological measures (as explained in a preceding paragraph).

Conversely, relaxation training did not coincide with an increased frequency of positive statements for Subject 6 (but child management training did). These relationships between the type of change measured and the type of training administered indicate that clinically significant treatment effects were more likely the effects of training than of testing or interactions with testing.

The variation in the length of baselines used in the multiple-baseline design provides a means to evaluate the above threats to internal validity. Treatment effects are demonstrated by introducing interventions to different subjects at different points in time. If changes in the baselines correlate with the introduction of the treatments, the effects can be attributed to the intervention, as opposed to extraneous variables like testing (Kazdin, 1982).

It is also possible that the parent's gradually becoming accustomed to the data collection procedures masked some of the positive effects of treatment. Parents may have become more honest on self-reported measures and more natural during observations as they became accustomed to the data collection process (e.g., see discussion of Subject 5 on page 101).

In addition to the testing threat, the effect of repeated social contacts with the individuals who collected the data and the individuals providing the treatment has an effect separate from the training itself. Wahler (1980)

found that 18 insular mothers in Tennessee reported fewer mother-child problems on days marked by more mother contacts with friends. Trickett and Susman (1988) reported that abusive families promote an isolated life style for both themselves and their children. Corse et al. (1990) recently reported that abusive families in their study had fewer peer relationships and more limited contact with the wider community than non-abusing families.

It is difficult to rule out the increased-social-contact threat to internal validity in the present study. All of the treatments were effective in reducing the number of negative physical contacts (see Table 3) and some part of that change may have resulted from the increased contact with trainers and data collectors. Data collectors were trained to minimize social interaction, but home observers must have some comfortable interaction to gain access without putting the subject in a defensive or guarded posture. Most forms of training intervention require the formation of a trusting relationship between trainer and subject as a medium for exchanging information on the subject's thoughts and feelings. Increased social contact is difficult if not impossible to avoid in the clinical study. Additional research of a different design is needed to isolate the effects of increased social contact. However, as mentioned above, the varied length of baselines provides one means to assess the degree to which increased social contact caused treatment effects. If increased

social contact were responsible for the changes, one might expect the initiation of change on the longer baselines to start before the introduction of treatment. Figure 6 shows an excellent example of change relating to the initiation of treatment following one of the longest baselines.

Increased social contact probably should be a goal of most clinical or programmed interventions (e.g., support groups as a mode of programmed intervention).

In summary, the forgoing extraneous variables (repeated testing, reactivity to testing, and increased social contact) could be considered as threats to internal validity. It does not appear that repeated testing or reactivity to testing were major threats to the results because changes in dependent measures were related to both the timing of the introduction of interventions and were related to specific training components introduced. Increased social contact is probably the most serious threat to internal validity. Additional research will be needed to isolate the effect of increased social contact, but the multiple baselines of varying length show no concerted picture of positive changes starting prior to the introduction of treatments.

Threats to External Validity

External Validity refers to the extent to which the results can be generalized from the experiment to other subjects and settings (Kazdin, 1982).

Operationalizing definitions. Inadequate preoperational explication of the constructs is a threat to generalization (Cook & Campbell, 1979) that is a continuing problem in the study of child abuse (Burgess & Conger, 1978; Emery, 1989; Giovannoni & Becerra, 1979; Herzberger, 1990). "Virtually every review of research on the topic of child abuse bemoans the lack of precise operation definitions" (Herzberger, 1990, p. 530). Problems with the definition of child abuse became evident in the present study when decisions based on criteria were made. This study used the following definition of child abuse offered by Burgess and Conger (1978): "Child abuse refers to nonaccidental physical and psychological injury to a child under the age of 18 as a result of acts perpetrated by a parent or caretaker" (p. 1163). The problem with the definition was related to the failure to operationalize "physical and psychological injury."

One of the criteria initially intended to identify a point at which all intervention could be terminated was no physical abuse for 4 weeks. This study used a dependent measure that was called negative physical contact, but failed to specify if all negative physical contact constituted child abuse. Does one swat on the child's bottom with an open hand constitute child abuse? Does it cause psychological injury? It was considered a negative physical contact in this study and considered an indicator of child abuse. The criterion for terminating intervention

was changed to two or fewer negative physical contacts in 4 weeks. That criterion was more clearly operationalized, but left open the possibility that the two contacts could have been two contacts to the head with a club, and the criterion would technically have been met. In this study parents reported both the type and the number of negative physical contacts, and no physical injuries were reported or observed.

Emery (1989), in a recent summary of the continuing problems in the area of definition, concludes that definitions of abuse may never meet scientific standards because they are social judgements. He suggests that research should "rely on the determinations of community agencies as one indicator of external validity" (p. 322). His faith in the ability of community agencies to operationalize constructs that can be applied in research across settings may exceed the evidence of past performance.

Herzberger (1990) identified the lack of precise operational definitions as one of four major methodological problems impeding progress of research on child abuse. "The ambiguity involved in specifying what constitutes the behavior under study leads to difficulties in comparing results across studies and to disagreements about the 'facts' pertinent to the phenomenon" (p. 531).

A discussion of issues involved in the definition of child abuse was presented on pages 7-8 of this study and

will not be repeated here. Suffice it to say that the problem requires more study.

Because treatment selection was based on assessment, this study did not control for order of treatment, a form of multiple-treatment interference (Borg & Gall, 1983), as a possible confounding variable.

Experimenter effect (Borg & Gall, 1983) poses some threat to external validity. The training was conducted by only two people, and the majority of the training was done by one of those people, the author. To the extent that trainers' personalities or styles of teaching affected the subjects, generalization of results are threatened. One of the strengths of the present study was that subjects became committed as evidenced by lack of attrition and by five of the subjects' asking for continued treatment or contact. If this strength resulted in part from the personalities involved, external validity is threatened.

Evidence from Dush and Stacy (1987) (cited on p. 118) indicated that low attrition in their study was attributed to preassessment of subjects. Additional research will be required to determine the extent to which personalities affected the results.

Suggestions for Future Research

Dependent measures. This study used 16 dependent measures (see Table 8). While those 16 measures provided a very wide variety of indicators of physical child abuse, the

task of gathering, presenting, and interpreting the results of all 16 dependent measures became difficult and time consuming. Results were not always available to the experimenter in a timely manner to use in making treatment decisions. Selecting fewer dependent measures would simplify the data collection and evaluation task.

There were three different modes of data collection for most abuse indicators and four modes of physiological measurement. Most of the indicators of physical child abuse were measured by self-report, coded audiotape, and coded direct observation. The collection of self reports is relatively efficient in terms of experimenter resources and can be more frequently measured (daily). One additional, more objective, mode of data collection would also be useful to assess the validity of the self-reports, and the fact that objective measures are collected may motivate the subject to be more objective in self reporting. It may not be necessary to collect two objective measures and four physiological measures, as was done in this study.

Criteria for competency/termination. The development and validation of criteria for competency in training physically abusive parents would advance both research and clinical application. Marvel (1987) pointed out that training is often provided in predetermined doses without evidence that the subjects become competent in the skills being trained. Validated criteria for termination of intervention would provide a basis for comparison of

treatment packages and would help the clinician identify the point at which termination of treatment could be safely and efficiently achieved. Criteria for competency should be an integral part of all parent training programs.

Choosing criteria that are equal in difficulty will facilitate the comparison of treatment modes. One form of equivalency not achieved in this study was equal number of criterion for competency in each treatment mode.

The validation process could be used to provide other valuable information on the frequencies of indicators of child abuse in non-abusing families. Evaluation of results in this study was hampered by the lack of information on how non-abusing parents would perform on these dependent measures. For example, how often do non-abusing parents make negative physical contact with their children, or how would they rate the strength of their negative feelings toward their children? Knowing the patterns of responses for non-abusing parents would help in setting appropriate targets for abusive parents to achieve in training.

Based on the present study, the following changes to the criteria for competency/termination are recommended. Both positive and negative statements could be included in one criteria. The ratio between the two could be used as the termination criteria. Based on the aggregate means for all subjects on Tables 6 and 7, a ratio for positive to negative statements of 5:1 appears to be an appropriate criterion. The baseline aggregate means ratio of positive

to negative statements in this study (Tables 6 & 7) was approximately 3:5 by observation and 1:6 by coded audiotape. The ratio improved to 9:1 by observation and 4:1 by coded audiotape. Using a ratio eliminates the problems of using a an absolute value which may be affected by the parents verbosity (e.g., Subject 1 who was a very quiet person as indicated by a low frequency of both positive and negative statements). The ratio is also superior to a percent-improvement criterion, which is distorted by a low baseline frequency (e.g., if the baseline frequency of positive statements is 0, an increase to 1 would meet any percent-improvement criterion). Research would be needed to validate this criterion.

Verbal abuse should probably be dropped as a criterion for termination, as it was observed so infrequently that it made a poor indicator of improvement.

As previously indicated, criteria considering negative feelings toward children should also consider positive feelings toward children. A ratio might also be useful in this area. The lack of normative data on the positive and negative feelings of nonabusive parents makes the suggesting of a specific criterion an exercise in guess work. Research is needed to provide normative data before this criterion can be realistically set.

Assessment. Much attention has been given in the literature to the assessment of the existence of child abuse and to the assessment of the abused child. Little attention

has been given to assessing the treatment needs of the abusive parent.

A standardized assessment package that provides information on parental stressors, social support systems, parental cognitive beliefs about themselves and their children, physiological stress indicators, and parental knowledge of child behavior management methods would be invaluable to both the clinician and the researcher.

Holden, Willis, and Foltz (1989) recently reported a study providing normative data on two self-report inventories that assess parents' perceptions of themselves, their children, and the stress in their lives. The Child Abuse Potential Inventory (CAP) and the Parenting Stress Index were the two instruments that might be considered as part of an assessment package.

Research is particularly needed to develop and validate an instrument to assess the type and amount of distortion in a subject's cognitive model of the world. Cognitive distortions specific to children and child rearing would be helpful to those working in the child abuse area.

Social contact. Several researchers have noted the effect of social contact on abusive families. Wahler (1980) reported that insular mothers had fewer mother-child problems on days marked by more mother contacts with friends. Trickett and Susman (1988) reported that abusive families promote an isolated life style for both themselves and their children. Corse et al. (1990) recently reported

that abusive families in their study had fewer peer relationships and more limited contact with the wider community than non-abusing families. An experimental control-group study in which one group received parent training and the other group received only increased social contact would be useful to isolate the effect of the increased social contact that occurs as a part of data collection.

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APPENDICES

Appendix A: Consent to
Participate in a Research Project

Purpose: The purpose of the research project is to reduce or eliminate verbal and/or physical child abuse among parents with a history of abusive behavior.

Research Procedures: The length of your involvement in the project is expected to be between 16 and 17 weeks. The following activities are required of parents who participate in the research project:

A. Attendance at two sessions a week at the Utah State University campus or the Bear River Mental Health Center. Each session will be about 45 minutes. Training will be provided in one or more of the following four areas.

   1. Relaxation Training. In this training we will teach you to relax. Instruments will be used to measure your degree of relaxation.

   2. Systematic Desensitization. This procedure involves learning to relax while listening to audiotapes of your own children.

   3. Child Management Training. Methods of managing the behavior of children will be presented and discussed. A small book will be provided, which you will be able to keep. Modeling, rehearsal, and role-playing will be a part of this training.

   4. Cognitive Modification Training. In this training we will help you discover how your "self-talk" affects your feelings and behavior. Alternate self-statements will be developed with your help, and you will be asked to practice them. You also will be asked to complete a questionnaire that will help identify your pattern of self-statements.

B. Participation in activities at home during the week, will include some of the following activities:

   1. Practice relaxation for 15 to 20 minutes twice a day and record your experiences in a relaxation diary.

   2. Tape record interactions with your children for 30 minutes a day. (This can be done while carrying out routine home activities).

3. Complete a daily rating sheet (requires 1 minute).

4. Wear a small instrument to measure your physiological activity at home. This will be done one time each week for 30 minutes. A research assistant will bring the instrument to your home and will be responsible for monitoring. During this period, you will be free to interact with other family members.

Potential Benefits: Potential benefits for participating in all phases of this study include reduced frequency of child abuse, improved family interactions, learning how to relax, learning to control your own feelings, and learning to control the stress in your environment. We will assess your present skills, and you will not be required to participate in learning skills you already possess.

Risks and Inconveniences: Although the personal risk involved in this project are minimal, there may be some risk involved as with any research study. Trained personnel will take reasonable precautions to reduce risk and prevent harm to participants. This research project is being conducted under the auspices of Utah State University. The research institution is legally liable for research-related injury due to obviously negligent conduct of this research or for any acts intentionally one to harm the participant. The University does not assume liability for harm that may occur in the absence of any clear negligence by research personnel. You should be aware of the following risks and inconveniences:

A. Relaxation training is not recommended for some individuals with a medical condition such as abnormal blood pressure, a heart condition, diabetes, and ulcers. Participation in relaxation training under these conditions may jeopardize your health.

B. The confidentiality of information obtained during the course of the project cannot be guaranteed under certain circumstances, which are specified below.

C. Your participation in the research project will require a considerable amount of time.

Protection of Participants: All information collected will be treated as confidential. No information will be communicated to other individuals or agencies unless authorized by your signature in a written letter or release-of-records form. However, it is important to note that the researcher is legally and ethically required to disclose confidential information in the following instances:

A. A clear emergency exists where there may be danger to the participant or others.

B. The researcher is under court subpoena to surrender records and/or give testimony.

Under these conditions, absolute confidentiality cannot be guaranteed because information may have to be disclosed as required by state law. Additionally, if you were referred to this project by the Division of Family Services, you should be aware that information regarding your progress in treatment will be provided to that agency upon their request. The researcher will request the Division of Family Services to provide any new information on child abuse that comes to their attention.

Medical Clearance: Relaxation training produces changes in physiological functioning and is therefore not recommended for some individuals with a medical condition (especially a heart condition, diabetes, ulcers, and abnormal blood pressure). To assure that you are not experiencing any of these disorders, a written medical clearance must be signed by a physician prior to your participation in the research project.

Statement of Consent and Agreement: The purpose and procedures of this research have been explained to me so that I understand them. I understand that my participation in this study is entirely voluntary and that I may decline to enter this study or may withdraw from it at any time without negative consequences to me by the research personnel. I also understand that I may be referred back to the Division of Family Services for placement in an alternate treatment program as long as it is not detrimental to me to discontinue participation in this project. I understand that the research institution is released from liability except in the case of a clearly negligent or intentionally harmful act. If I have further questions concerning this research or the procedures at any time, I can contact Scott Blickenstaff at 752-0750 for information. I authorize the investigator to keep, publish, use, or dispose of the information and results of this research so long as confidentiality is maintained.

THE STUDY HAS BEEN FULLY EXPLAINED TO ME AND I HAVE READ AND UNDERSTAND THE AGREEMENT. THEREFORE, I VOLUNTARILY CONSENT AND AGREE TO PARTICIPATE IN THIS STUDY.

Participant's Name: _____

Participant's Signature: _____

Witness: _____ Date: _____

Appendix B: Relaxation
Training Procedures

I. Session #1: Introduce autogenic exercises

A. General description of the technique:

1. This method entails the regular practice of standard exercises designed to produce subjective sensations of relaxation, such as heaviness and warmth.

2. Visual imagery and self-statements are components of the exercises.

B. Passive concentration:

1. Relaxation occurs more readily when one "lets it happen" rather than actively tries to relax.

C. Postures:

1. Model three positions (sitting upright, reclining, lying down).

2. Describe the importance of providing support for all parts of the body.

D. Describe components of the exercises:

1. Body check: a 30-60 second survey of the body to identify and release excess tension or discomfort.

2. Breathing - take three deep, slow breaths (breathing from the stomach). For each breath, inhale and exhale to the count of four.

3. Peace scene - a relaxing mental image; suggest possible scenes which are tranquil and foster a sense of relaxation. This scene is maintained for approximately one minute.
4. Formula - these will be modified or combined during each training session. Give an example (e.g., "My right arm is heavy"). Each formula is repeated five or six times.
5. Terminating the exercise - flex and stretch arms, breath deeply, and open eyes.

E. Conduct the exercises, using the first formula.

1. Set #1
   a. Lead participant through the five components by narrating each step, including repetition of the formula.
   b. After terminating the set, allow the participant to ask questions and/or describe sensations.
2. Set #2
   a. Participant proceeds through the steps without narration unless he/she has had difficulty with the sequence during the first set.
   b. After the participant terminates the set, ask for questions/experiences.

3. Set #3

a. Participant proceeds without narration, again followed by a brief discussion of his/her experiences.

F. Discuss relaxation as a new skill which will require practice. Encourage the participant to practice twice a day. Provide the relaxation diary and describe how to complete it.

II. Procedures for sessions 2 through 8:

A. Review the relaxation diary with the participant. Discuss problems that were encountered. If needed, provide options to deal with problems (see Aids for Relaxation Training below).

B. Review the five steps of the exercises.

C. The participant proceeds through set #1 with the formulas from the previous session. Ask for the participant's sensations including whether he/she is experiencing a sense of heaviness or warmth.

D. Present the new formula(s) to the subject (see sequence of formulas below).

E. Lead the participant through the set #2 with the new formulas (narrate the steps, including the new formula). Inquire about the participant's sensations.

F. For set #3, have the participant proceed through the sequence without assistance. Inquire about the subject's sensations and problems.

G. Provide "summary" feedback for the subject. Describe any changes in the physiological parameter which was recorded during the session.

H. Review the participant's typical daily schedule and determine occasions when brief relaxation sessions or parts of the procedure can be practiced and integrated into his/her daily routine.

I. Encourage the participant to continue practicing. Provide new relaxation diary forms.

III. Sequence of formulas:

Session #1: "My right arm is heavy" (RAH)

#2: RAH + "My left arm is heavy" (LAH) + "Both arms are heavy" (BAH)

#3: BAH + "My right leg is heavy" + "My left leg is heavy" + "Both legs are heavy"

#4: "My arms and legs are heavy" (A & LH)

#5: A & LH + "My right arm is warm" + "My left arm is warm" + "Both arms are warm" (BAW)

#6: A & LH + BAW + "My right leg is warm" + "My left leg is warm" + "Both legs are warm"

#7: A & LH + "My arms and legs are warm"

#8: "My arms and legs are heavy and warm"

IV. Aids for relaxation training:

A. Interfering thoughts:

1. Review the concept of passive concentration. Suggest to the client that when the interfering thoughts occur, state to him/herself, "That's interesting", then return to the formula.

2. Check how long the participant is remaining on each formula. If the formula is longer than 60 seconds, reduce the length.

3. Use imagery. For example, imagine that the interfering thoughts are streaming into the right and left sides of the head from above, and are being released through an opening in the forehead.

B. Difficulty maintaining a peace scene:

1. Try to use an alternate modality (e.g.,auditory, visual, kinesthetic) when imagining the scene.

2. Focus on breathing rather than a peace scene.

C. Somatic complaints (e.g., pain, dizziness, swelling):

1. Alter the formula so it is more moderate (e.g., from "My right arm is heavy" to "My right arm is comfortably heavy").

2. Shorten the practice time.

3. Alter the posture, assure that the body is well supported.

D. Unable to sense heaviness:

1. Suggest imagery-enhancing techniques (e.g., sand on arms).
2. If tightening is in specific muscle groups, tense and relax the muscles before beginning the formula.
3. Practice in the bathtub, lift arm out of the water when beginning the heaviness formula.
4. Focus on heaviness during each exhalation.

E. Unable to sense warmth:

1. Suggest imagery-enhancing techniques (e.g., sun shining on the arm, warm fluid flowing through the arm).
2. Lay a blanket on the arms.
3. Bathe the hands and feet in warm water before starting.
4. Place a hand on a warm body region (e.g., chest or abdomen) and imagine warmth is flowing into the hand).

F. Subject reports that no progress is being made:

1. Assure that the person is practicing regularly.
2. Inquire about the participant's environment for practicing relaxation.

3. Observe the participant's posture for support and comfort.
4. Discuss the concept of a passive attitude.
5. Make an audiotape with which the participant can practice at home.
6. Try a different formula, then return to the original formula at a later time.

Appendix C: Systematic Desensitization Procedures

Obtaining a sample pool. Sort the subject's audiotapes into three groups based upon the ending SUDS rating on a self-report form corresponding to each audiotape. The ending ratings are used as the criteria for grouping tapes because it is assumed that higher ending ratings are associated with audiotapes in which more stressful audio stimuli had occurred. Likewise, lower ending ratings are indicative of audiotapes with fewer stressful stimuli. The range of the ending SUDS ratings is determined by reviewing the subject's self-report forms. Once the range is determined, it is divided into thirds for purposes of sorting audiotapes. For example, if the parent's highest and lowest SUDS ratings were 85 and 10, respectively, then the range would be 75. By dividing the range into thirds, SUDS groupings would be 10 to 35, 36 to 60, and 61 to 85. Audiotapes corresponding to each ending SUDS rating would then be sorted into these three groups. From each group, one audiotape would be selected randomly. The purpose of this sorting procedure is to increase the likelihood that a representative range of home interactions will be placed into the sample pool.

After the three audiotapes have been selected, thirty 10-second segments are extracted, 10 from each tape. For each audiotape, eight of the segments are selected by a systematic sampling technique (Borg & Gall, 1983). A 10-

second interval is taken at the beginning of the following minutes: 1, 5, 9, 13, 17, 21, 25, and 29. The ninth and tenth segments selected are based upon the experimenter's judgement. That is, two segments which appear to be potentially stress-producing are selected from each tape. By repeating this process for each of the three audiotapes, a sample pool of 30 items is generated.

Each segment is transferred from the audiotape to a Language Master card. Because single cards used in this study provide a recording of only five seconds in duration, two cards are attached together with transparent tape in order to record the selected 10-second intervals. After each of the 30 samples has been transferred to the Language Master cards, the cards are mixed together randomly.

Ranking the sample pool items. To complete the anxiety hierarchy, the subject rates each of the stimulus items according to the SUDS rating scale. Prior to the session, the cards, in random order, are numbered from 1 to 30. A form (Appendix C, Hierarchy Construction Form) is used to record the subject's ratings for each card. The subject is instructed in words to this effect:

> I am going to play some parts of audiotapes that you have recorded at home. As you listen to each one try to visualize the scene as clearly as you can. After each one, I will ask you to provide a SUDS rating to let me know how you responded to the tape.

After all cards have been presented, the SUDS ratings are examined to identify tied ratings. The cards with tied

SUDS ratings are then re-played and the subject is asked to re-rank them. The subject is instructed in words to this effect:

> These three segments were all rated as 40. I am going to play them again so you can tell me if they are really equal or if they produce slightly different reactions when you listen to them. Again, try to visualize each scene as clearly as you can while you listen.

After each set of tied ratings had been re-ranked, the session is terminated. From the 30 samples, 10 are selected for the final anxiety hierarchy. The selected items are of approximate equal spacing along the continuum of SUDS ratings. Items 1 and 10 are segments with the lowest and highest ratings, respectively. To select the remaining eight items, the range of SUDS ratings is divided by nine to obtain equally spaced intervals. Next, actual ratings that most closely approximated each of these equal intervals are selected from the sample pool. These 10 cards are then re-numbered from 1 to 10. They constituted the anxiety hierarchy which is used during the systematic desensitization procedure.

Desensitization training. Wolpe's (1958, 1982) systematic desensitization is based on the theory that an individual cannot simultaneously experience relaxation and physiological arousal. The individual is trained in relaxation, and then exposed to a hierarchy of stimuli, starting with the subjectively least disturbing. The procedure requires exposing a relaxed parent to an aversive

stimulus that is not of sufficient strength to evoke physiological arousal. Upon repeated exposure without arousal, the stimulus progressively decreases in its potential for evoking the undesired arousal.

Systematic desensitization training can begin only after the parent has demonstrated the ability to relax by meeting the physiological criteria stated in the Assessment section for relaxation. The lowest SUDS (see measures section for definition) rating achieved during relaxation or stress profile becomes the criterion for relaxation during the desensitization procedures. When the SUDS rating exceeds that criterion, the desensitization stimulus must be withdrawn and the parent must relax before proceeding.

Physiological data would have been collected during systematic desensitization sessions. Physiological monitoring would use the same procedure described in the relaxation section.

Training in this component was to have been discontinued when one of the following occurs: 1) the parent meets the criteria for successful termination of intervention (adequate reduction in indicators of abusive behavior), 2) the parent shows no improvement on the dependent measures for 3 weeks, 3) the parent can maintain the relaxation criterion throughout the desensitization hierarchy in the laboratory and reports an average home SUDS level 50% below baseline.

Appendix D:
Child Management Sessions

Lesson #1:[1]

A. Learning and behavior change

B. Focusing on strengths

C. Setting objectives

D. Collecting data

E. Homework:

1. "Come Here" program baseline data sheet

2. Reinforcer menu

Lesson #2:

A. Review homework

B. Evaluate for content competency

C. Provide necessary remediation

D. Reevaluate for content competency

E. Reinforcement techniques

F. Homework: "Come Here" program reinforcement sheet

Lesson #3:

A. Review homework

B. Evaluate for content competency

C. Provide necessary remediation

D. Reevaluate for content competency

E. "Extinction burst"

---

[1] The term "Lesson #1" refers to a unit of content, not to material which must be covered in the session which corresponds to the lesson number (i.e., material from Lesson #1 will be taught until it is mastered, even if that is training session #4).

F. Homework: Differential attention data sheet

Lesson #4:

A. Review homework

B. Evaluate for content competency

C. Provide necessary remediation

D. Reevaluate for content competency

E. Changing the antecedents of behavior

F. Precision Commands

G. Time out techniques

H. Homework: Precision commands data sheet

Lesson #5:

A. Review homework

B. Evaluate for content competency

C. Provide necessary remediation

D. Reevaluate for content competency

E. Chart systems

F. Spinners

G. Homework: Begin a chart system

Lesson #6:

A. Review homework

B. Evaluate for content competency

C. Provide necessary remediation

D. Reevaluate for content competency

E. Contracting

F. Response cost

G. Homework: Develop a contract

Lesson #7:

A. Review homework

B. Evaluate for content competency

C. Provide necessary remediation

D. Reevaluate for content competency

E. Shaping

F. Prompting

G. Fading

H. Homework: Plan for the future worksheet

Lesson #8:

A. Review homework

B. Twenty-item verbal assessment of principles of child management (must pass 80% of the items)

C. Remedial training

D. Retest

E. Assess for component competency

F. Terminate intervention or start another component

Child Management Final Review Questions

1. In determining behavior goals for your child, what are the two conditions to remember? (Being positive and specific.)

2. Give an example of a behavior change goal using these two conditions.

3. What is the effect of providing a reinforcer on your child's behavior? (Maintains or increases behavior.)

4. Give an example of when you would provide your child with a reinforcer.

5. What are the IFEED rules of reinforcement? (Immediately, frequent, be enthusiastic, make eye contact, describe the behavior you like.)

6. What is differential attention? (reinforcement and ignoring). Give an example of when you can use ignoring with your child.

7. What is an extinction burst, and what should you do when it occurs?

8. Give an example of changing an antecedent to your child's behavior.

9. Describe the precision commands process using a behavior of your child's.

10. Give an example of how you would use time-out with your child.

11. How are charts and spinners used together to change behavior? (The child's compliance to tasks is recorded in a chart. Child spins the spinner to see what reinforcer he/she will receive.)

12. Give an example of how you and your child could develop a contract.

13. Why might you want to ignore some of your child's negative behavior?

Give an example of how each of the following may be used with your child:

14. Shaping

15. Prompting

16. Fading

17. What is usually the most powerful tool for changing your child's behavior? (Catch him being good.)

18. You ask your daughter to stop hitting her little brother, but she continues. You decide to send her to a time-out room. What should that room be like? (uninteresting)

20. If you want your son to learn to say "please" and "thank you" at the dinner table, it is probably most important to _____? (remember to compliment when he remembers to say them)

Appendix E: Cognitive Modification Procedures

Lesson #1:[1]

A. SUDS rating

B. Describe the problem-solving strategy. Provide a written format with examples for each step (Form #1: Problem-Solving Strategies).

C. Describe irrational beliefs (step 4 on the Problem-Solving Strategies form).

1. Present the following concepts regarding the impact of cognitive processes upon behavior and emotions (from Davis, Eshelman, & McKay, 1980; McKay, Davis, & Fanning, 1981):

   a. One's beliefs and constructions about events create stress/anger rather than the events themselves.

   b. Distorted beliefs can trigger further negative feelings and behavior.

   c. Our beliefs about an event are manifested in self-statements, of which we may be unaware.

2. Present the "A-B-C" sequence (Ellis, 1984) and provide examples (see Form #2: A-B-C Model and Examples).

---

[1]. The term "Lesson #" refers to specific content and not to material presented in any given session.

D. Homework assignment: Complete the 21-item questionnaire (Davis, Eshelman, & McKay, 1980, p. 106-109) containing common irrational beliefs (see Form #3: Irrational Beliefs Questionnaire). Present this assignment as an aid in helping him/her identify irrational thoughts.

E. SUDS rating

Lesson #2:

A. SUDS rating

B. Review the Questionnaire; identify the irrational beliefs.

C. Provide a format for challenging the irrational beliefs (see Form #4: Challenging Irrational Beliefs) (Davis, Eshelman, & McKay, 1980, p. 110-111).

1. Model the process of challenging the beliefs by taking an example of an irrational belief and following the steps on the form.
2. Parent selects one of his/her irrational beliefs and challenges it by following the same format.

D. Identify specific anger- and stress-producing self-statements made by the parent.

1. Provide examples of dysfunctional self-statements in an "A-B-C" format (see Form #5: Examples of Self-Statements).

2. Instruct the parent to recall a recent anger experience involving a child, describe the activating event (A), subsequent behaviors and emotional reactions (C), and his/her self-statements (B). The parent is encouraged to verbalize his/her thoughts while narrating the sequence step-by-step to help identify self-statements. The self-statements are written down for future use.

E. Homework assignment: Provide an "A-B-C" blank form (see Form #6: A-B-C Worksheet) and instruct the parent to complete steps A, B, C, and D before the next session. This exercise is to help identify the parent's self-statements in an actual situation.

F. SUDS rating

Lesson #3:

A. SUDS rating

B. Review the "A-B-C" worksheet homework assignment. If the parent had difficulty identifying inappropriate self-statements, review the situation again and help identify self-statements.

C. Generate alternate self-statements.

1. Provide a list of coping statements.

2. Request the parent to modify or replace the inappropriate self-statement and to record it on the "A-B-C" worksheet.

D. Role-play the situation with the parent using the new self-statement.

E. Homework assignment: the parent is to apply the seven steps of the problem-solving strategy (see Form #8: Problem Solving Strategies Worksheet) to one situation recently experienced with his/her own child, including refuting irrational beliefs (step #4) and generating appropriate alternate self-statements (step #5).

F. SUDS rating

Lesson #4:

A. SUDS rating

B. Review the homework; provide suggestions for steps that were problematic for the parent.

C. Assess the parent's ability to apply the problem solving strategy (see Form #9: Assessment of Cognitive Modification Procedures).

D. SUDS rating

Evaluate for component competency select one of these options:

A. Continue training to competency criteria

B. Initiate training in a new component

C. Discontinue intervention

Appendix F: Observer
Data Recording Forms

Project Choice

HOME MONITORING DATA FORM

Subject:_____

Observer:_____

Date:_____ Time:_____

Parameter:_____

Room Temp.:_____

Clothing:
Light___ Medium____ Heavy____

Number of Children Present:_____

Parent Interactions:
Number of P+

Number of P-

Additional Observations:

SUDS ☐

1	____+ - V	46	____+ - V
2	____+ - V	47	____+ - V
3	____+ - V	48	____+ - V
4	____+ - V	49	____+ - V
5	____+ - V	50	____+ - V
6	____+ - V	51	____+ - V
7	____+ - V	52	____+ - V
8	____+ - V	53	____+ - V
9	____+ - V	54	____+ - V
10	____+ - V	55	____+ - V
11	____+ - V	56	____+ - V
12	____+ - V	57	____+ - V
13	____+ - V	58	____+ - V
14	____+ - V	59	____+ - V
15	____+ - V	60	____+ - V
16	____+ - V		
17	____+ - V	SUDS	☐
18	____+ - V		
19	____+ - V		
20	____+ - V		
21	____+ - V		
22	____+ - V		
23	____+ - V		
24	____+ - V		
25	____+ - V		
26	____+ - V		
27	____+ - V	MEAN=	
28	____+ - V		
29	____+ - V		
30	____+ - V		
31	____+ - V		
32	____+ - V		
33	____+ - V		
34	____+ - V		
35	____+ - V		
36	____+ - V		
37	____+ - V		
38	____+ - V		
39	____+ - V		
40	____+ - V		
41	____+ - V		
42	____+ - V		
43	____+ - V		
44	____+ - V		
45	____+ - V		

RELAXATION TRAINING DATA FORM

Subject : _____ Session #: _____

Date: _____ Time: _____ Parameter: _____

Room Temp.: _____ $\bar{X}$ Sets 1, 2, 3 = _____

Formulas:

Baseline	Set 1	Set 2	Set 3	Baseline
SUDS ☐				
1 ____ ____	1 ____ ____	1 ____ ____	1 ____ ____	1 ____ ____
2 ____ ____	2 ____ ____	2 ____ ____	2 ____ ____	2 ____ ____
3 ____ ____	3 ____ ____	3 ____ ____	3 ____ ____	3 ____ ____
4 ____ ____	4 ____ ____	4 ____ ____	4 ____ ____	4 ____ ____
5 ____ ____	5 ____ ____	5 ____ ____	5 ____ ____	5 ____ ____
6 ____ ____	6 ____ ____	6 ____ ____	6 ____ ____	6 ____ ____
7 ____ ____	7 ____ ____	7 ____ ____	7 ____ ____	7 ____ ____
8 ____ ____	8 ____ ____	8 ____ ____	8 ____ ____	8 ____ ____
9 ____ ____	9 ____ ____	9 ____ ____	9 ____ ____	9 ____ ____
10____ ____	10____ ____	10____ ____	10____ ____	10____ ____
	11____ ____	11____ ____	11____ ____	SUDS ☐
	12____ ____	12____ ____	12____ ____	
	13____ ____	13____ ____	13____ ____	
	14____ ____	14____ ____	14____ ____	
	15____ ____	15____ ____	15____ ____	
	SUDS ☐	SUDS ☐	SUDS ☐	

Project Choice

Project Choice

SYSTEMATIC DESENSITIZATION DATA FORM

Subject:_____
Session#:_____ Time:_____
Date:_____

Observations and Comments:

Set 1	Set 2	Set 3	Set 4
SUDS ☐			
1_____	1_____	1_____	1_____
2_____	2_____	2_____	2_____
3_____	3_____	3_____	3_____
4_____	4_____	4_____	4_____
5_____	5_____	5_____	5_____
6_____	6_____	6_____	6_____
7_____	7_____	7_____	7_____
8_____	8_____	8_____	8_____
9_____	9_____	9_____	9_____
10_____	10_____	10_____	10_____
11_____	11_____	11_____	11_____
12_____	12_____	12_____	12_____
SUDS ☐	SUDS ☐	SUDS ☐	SUDS ☐
			$\bar{X}$=

minutes:	Pre-stimulus			card #	Post-stimulus		
	Trial	SUDS	Physio		SUDS	Physio	PH-30
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

Project Choice

PHYSIOLOGICAL DATA COLLECTION FORM

SUDS ☐

1 ____	1 ____	1 ____	1 ____	1 ____
2 ____	2 ____	2 ____	2 ____	2 ____
3 ____	3 ____	3 ____	3 ____	3 ____
4 ____	4 ____	4 ____	4 ____	4 ____
5 ____	5 ____	5 ____	5 ____	5 ____
6 ____	6 ____	6 ____	6 ____	6 ____
7 ____	7 ____	7 ____	7 ____	7 ____
8 ____	8 ____	8 ____	8 ____	8 ____
9 ____	9 ____	9 ____	9 ____	9 ____
10____	10____	10____	10____	10____

SUDS ☐

1 ____	1 ____	1 ____	1 ____	1 ____
2 ____	2 ____	2 ____	2 ____	2 ____
3 ____	3 ____	3 ____	3 ____	3 ____
4 ____	4 ____	4 ____	4 ____	4 ____
5 ____	5 ____	5 ____	5 ____	5 ____
6 ____	6 ____	6 ____	6 ____	6 ____
7 ____	7 ____	7 ____	7 ____	7 ____
8 ____	8 ____	8 ____	8 ____	8 ____
9 ____	9 ____	9 ____	9 ____	9 ____
10____	10____	10____	10____	10____
11____	11____	11____	11____	11____
12____	12____	12____	12____	12____
13____	13____	13____	13____	13____
14____	14____	14____	14____	14____
15____	15____	15____	15____	15____
16____	16____	16____	16____	16____
17____	17____	17____	17____	17____
18____	18____	18____	18____	18____
19____	19____	19____	19____	19____
20____	20____	20____	20____	20____

SUDS ☐

1 ____	1 ____	1 ____	1 ____	1 ____
2 ____	2 ____	2 ____	2 ____	2 ____
3 ____	3 ____	3 ____	3 ____	3 ____
4 ____	4 ____	4 ____	4 ____	4 ____
5 ____	5 ____	5 ____	5 ____	5 ____
6 ____	6 ____	6 ____	6 ____	6 ____
7 ____	7 ____	7 ____	7 ____	7 ____
8 ____	8 ____	8 ____	8 ____	8 ____
9 ____	9 ____	9 ____	9 ____	9 ____
10____	10____	10____	10____	10____

SUDS ☐

Subject: _____

Date: _____

Time: _____

Room Temp.: _____

Comments:

Appendix G: Self-Report
Data Collection Forms

Project Choice

SELF-REPORT DATA COLLECTION FORM

(For use on days when a tape recording is made.)

Date:_____
Time:_____
Initials:_____

Before starting the tape recorder:

1. At this time, I feel:

0	10	20	30	40	50	60	70	80	90	100
	5	15	25	35	45	55	65	75	85	95
Very Relaxed										Very Tense

After the tape is finished:

2. During the last 30 minutes I felt:

0	10	20	30	40	50	60	70	80	90	100
	5	15	25	35	45	55	65	75	85	95
Very Relaxed										Very Tense

3. My attitude toward my children during the last 30 minutes was:

0	10	20	30	40	50	60	70	80	90	100
	5	15	25	35	45	55	65	75	85	95
Very Positive										Very Negative

4. The number of negative statements (e. g., criticizing, name calling, yelling, swearing at, etc.) made to my child (ren) during the last 24 hours:

_____

5. The number of positive statements (e. g., praise, positive evaluation, approval, etc.) made to my child (ren) during the last 24 hours:

_____

6. The number of negative physical contacts made with my child (ren) during the last 24 hours:

hit_____
slap_____
grab_____
shake_____
spank_____
other_____ (please describe)

Project Choice

DATA PACKET

Week of:_____

	M	T	W	Th	F	Sa	Su
Cassette:							
Rating Sheets:							

Assignment: 1. At least three 30-minute tapes (3 cassette sides) each week.
2. Rating sheets six days of the week.

Appointments for This Week:

Home Monitoring _____
Training Sessions _____

Other Instructions:

Appendix H: Audiotape Coding Categories and Data Coding Sheet

PARENT STATEMENTS:

Negative parental statement (P-): A statement that finds fault with the activities, products, or attributes of the child. Includes a negatively evaluative adjective or adverb that refers to the child (e.g., naughty, bad, sloppy, etc.). Tells the child what not to do. A statement of disapproval. Includes obvious parental sarcasm. A statement can be coded as critical if either the content or the tone of voice conveys a negative evaluation.

Examples:
- You're being naughty.
- Don't tear the book.
- Stop hitting me.
- That's stupid.
- That's awful.
- You're not trying.
- That's a sloppy picture.
- I don't like your attitude.

Guidelines:

1. A negatively evaluative adjective or adverb that refers to an action, product, or attribute of the child makes a comment a negative statement.

Examples:
- How inferior.
- That's naughty.
- That's a lousy drawing.
- You're sloppy.
- You are foul today.
- You're lazy.
- You behaved badly.
- You're not trying.

2. A negative statement refers to a activity, product, or attribute of the child.

Examples:
- You didn't do a very good job on that house.
- You put the doll in a stupid place.
- That's not a nice thing to do.
- You're being very careless today.

3. A statement that negatively evaluates or finds fault with objects in the environment or the activities or products of others is <u>not</u> a negative statement.

Examples:
- The truck is too small.
- I don't like these curtains.
- That doll is broken.
- That house is going to fall over.

4. A negative command tells the child what not to do and is a negative statement.

Examples: Stop shouting.
Don't put the gun in the toy box.
Cut that out.
You shouldn't stand on the furniture.
I told you not to write on the wall.
I don't want you to do that again.

5. A statement of disapproval is a negative statement.

Examples: That's not very funny.
I don't like it when you talk back.
I don't like you to throw things.
I don't like your picture.

Positive parental statement (P+): A statement that expresses a favorable judgement on an activity, product, or attribute of the child. May be stated in question form (e.g., "That's great, isn't it?").

Examples:

Terrific.	Swell.	Perfect.
Great.	Marvelous.	Excellent.
Nice.	Fine job.	First-rate.

That's a terrific house you made.
You did a great job of building the tower.
Your picture is very pretty.
You have a beautiful smile.
Isn't that a lovely picture that you drew?
You're my little helper for making the bed.

Guidelines:

1. Positive parental statement (P+) must refer to a product, activity, or attribute of the child. Statements indicating approval of an object in the room, or activity or product of others is not positive parental.

Examples: (positive parental statements)

You're thoughtful.	You're so polite.
You're considerate.	You're so patient.
You're bright.	

2. Positive parental statement must include a clear verbal picture of positive evaluation. Implied approval through enthusiasm alone is not defined as positive parental statement.

Examples: Wonderful! (P+)
Wow! (Not coded)
That's mommy's little helper. (P+)

3. Statements of positive evaluation which positively evaluate the child's activity are positive parental statement even if they are stated in question form.

Examples: That's terrific, isn't it?
I think that's beautiful, don't you?
You did that just right, didn't you?

4. A positive metaphor that refers to the child is P+.

Examples: You're my little helper.
Here comes daddy's little princess.
What a sweetheart.

Parental verbal abuse (PVA): Yelling, screaming, name calling, threatening, or harshly criticizing the child beyond the degree necessary to correct the child's behavior and/or is belittling to the child.

Examples: You disgust me. You are a dumb kid!
I hate you. Shut up!

Guidelines:

1. The statement must be clearly directed at the child.

2. Either the content of the statement or the tone of voice can make a statement abusive.

3. The statement more than corrects the child's behavior. It is overly harsh or belittles the child beyond the degree necessary to correct the behavior.

CHILD STATEMENTS:

Child negative (C-): Includes any of the following verbalizations:

1. Cry - Audible weeping at or below the loudness of normal conversation. Fake crying and sniffling are coded as crying.

2. Yell - A loud screech, scream, shout, or loud crying. The sound must be loud enough so that it is clearly above the intensity of normal indoor conversation.

3. Whine - A whine consists of words uttered by the child in a slurring, nasal, high-pitched, falsetto voice.

4. Smart Talk - Impudent or disrespectful speech. Arguing, refusing, or counter-commanding, in response to a parental command, is a smart talk. Criticism of the parent is a smart talk. Swearing, cursing, or using off-color language is smart talk. Sarcasm toward the parent is smart talk. Excuses, clarifying questions, statements of preference, or postponements in response to parental commands are not coded smart talk. A verbal threat to a parent is a smart talk.

Child positive (C+): Child positive is a verbalization by the child that expresses a favorable judgement on an activity, product, or attribute of the parent. See the guidelines for positive parental statement for more specific examples.

Project Choice

DATA SHEET FOR CODING TAPES

SUBJECT: _____ CODE-1

CODER: _____

DATE OF TAPE: _____

Row						
1	1 P+ PVA P- C+ C-	2 P+ PVA P- C+ C-	3 P+ PVA P- C+ C-	4 P+ PVA P- C+ C-	5 P+ PVA P- C+ C-	6 P+ PVA P- C+ C-
2	7 P+ PVA P- C+ C-	8 P+ PVA P- C+ C-	9 P+ PVA P- C+ C-	10 P+ PVA P- C+ C-	11 P+ PVA P- C+ C-	12 P+ PVA P- C+ C-
3	13 P+ PVA P- C+ C-	14 P+ PVA P- C+ C-	15 P+ PVA P- C+ C-	16 P+ PVA P- C+ C-	17 P+ PVA P- C+ C-	18 P+ PVA P- C+ C-
4	19 P+ PVA P- C+ C-	20 P+ PVA P- C+ C-	21 P+ PVA P- C+ C-	22 P+ PVA P- C+ C-	23 P+ PVA P- C+ C-	24 P+ PVA P- C+ C-
5	25 P+ PVA P- C+ C-	26 P+ PVA P- C+ C-	27 P+ PVA P- C+ C-	28 P+ PVA P- C+ C-	29 P+ PVA P- C+ C-	30 P+ PVA P- C+ C-
6	31 P+ PVA P- C+ C-	32 P+ PVA P- C+ C-	33 P+ PVA P- C+ C-	34 P+ PVA P- C+ C-	35 P+ PVA P- C+ C-	36 P+ PVA P- C+ C-
7	37 P+ PVA P- C+ C-	38 P+ PVA P- C+ C-	39 P+ PVA P- C+ C-	40 P+ PVA P- C+ C-	41 P+ PVA P- C+ C-	42 P+ PVA P- C+ C-
8	43 P+ PVA P- C+ C-	44 P+ PVA P- C+ C-	45 P+ PVA P- C+ C-	46 P+ PVA P- C+ C-	47 P+ PVA P- C+ C-	48 P+ PVA P- C+ C-
9	49 P+ PVA P- C+ C-	50 P+ PVA P- C+ C-	51 P+ PVA P- C+ C-	52 P+ PVA P- C+ C-	53 P+ PVA P- C+ C-	54 P+ PVA P- C+ C-
10	55 P+ PVA P- C+ C-	56 P+ PVA P- C+ C-	57 P+ PVA P- C+ C-	58 P+ PVA P- C+ C-	59 P+ PVA P- C+ C-	60 P+ PVA P- C+ C-

Comments:

Was PA noted? If so, describe incident and apx. location on tape.

Code:

- P+ Parent positive statement
- P - Parent negative statement
- PVA Parent verbal abuse
- C+ Child positive statement
- C - Child negative statement

Appendix I: Beliefs
Inventory Normative Data

SCALE	MEAN	STANDARD DEVIATION
1	2.9	2.2
2	3.8	1.5
3	4.9	2.1
4	5.3	2.5
5	2.5	1.7
6	3.2	2.0
7	3.5	1.3
8	5.0	1.7
9	2.9	1.6
10	2.6	1.9

VITA

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Doctor of Philosophy

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Major Field: Psychology

Biographical Information:

Personal Data: Born the second of eight children in a loving family in Blanding, Utah, on 18 April, 1947. Married the beautiful Debra Ann Jensen on 7 June, 1971. Together, we are parenting four exceptional daughters: Lisa, Stacy, Kathryn, and Kristine.

Education: Graduated from San Juan High School in Blanding, Utah in 1965; received a Bachelor of Science degree magna cum laude from the University of Utah in 1971 with a major in psychology; Received a Master of Arts in social science with an emphasis in family therapy from Pacific Lutheran University in 1976; completed Military Sociology Program at the University of Chicago in 1980; completed the requirements for Doctor of Philosophy at Utah State University with a major in clinical psychology in the combined professional-scientific program in 1990.

Professional Experience: 1988 to present, psychotherapist at Bear River Community Mental Health Center; 1987, psychology extern at Logan Regional Hospital and Bear River Community Mental Health Center; 1986, psychology extern at Bear River Community Mental Health Center; 1985, psychology intern at the Exceptional Child Center, Utah State University; 1984, graduate assistant counselor at Utah State University Counseling Center; 1984, practicum supervisor, Utah State University; 1983, cardiac bypass surgery and ensuing depression; 1980-1983, instructor in military sociology, Army ROTC, Utah State University; 1976, family therapy practicum intern, Family Clinic, Madigan Army Hospital, Ft Lewis Wa.; 1971-1983, military personnel officer, United States Army.